

ASI NEWS

JUNE 2018

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The International Day of
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SAN SERVOLO ISLAND

19th International
Conference on Lymphatic
Tissues and Germinal
Centres in Immune
Reactions

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HELLO FROM THE EDITOR!

Immunology education is the
new Translational Medicine

ANGELICA LAU



It wasn't that long ago the ASI quarterly newsletter was published in March – yet this June edition is more exciting than ever!!

Many events have happened within these few short months, ranging from prominent visiting speakers gracing our southern continent and sharing with us their research, to the hugely successful celebration of International Day of Immunology (DoI) across the Australasian region. It is pleasing to hear from president Su Heinzel that ASI aim to collaborate more with its sister society ASCIA, and ASI members are encouraged and invited to their society meetings. Clearly there are many new incentives and initiatives happening in all states so make sure to pay attention to your State Councillor's reports!

If you like some light reading, you might just like this issue as much as I do. It was great to see our ASI members getting creative with the way they communicate,

engage and educate the public (kids and parents alike) about the progress of translational Immunology research during the week of DoI. With the increasing application of immunotherapies and personalised medicines, public engagement and education about the importance of targeting and manipulating the immune system have never been more important. The enthusiasm from all the volunteers who helped organise and run the DoI events really highlighted how active and translatable Immunology research is in Australia and New Zealand. It really is a perfect opportunity for Immunology to shine as a discipline in both basic and clinical research – be sure to check out how different states celebrated and showcased their passion for Immunology research!

Be sure to check out how different states celebrated and showcased their passion for Immunology research!

On a more solemn note, in this issue we also take the chance to honour an invaluable ASI member, the late Derek Hart (1952-2017), pioneer of dendritic cell research. Thanks to Mark Hogarth, Georgina Clark and Barbara Fazekas who wrote this obituary – a remarkable story of a pioneer with an incredible vision who inspired many.

If you have anything interesting to share with the ASI community, I'd love to hear it. ■

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PRESIDENT'S REPORT

SUSANNE HEINZEL, ASI president



It has been a busy first half of the year for ASI. I firstly want to take this opportunity to welcome the new members to ASI council. Deputy treasurer Asolina Braun, NSW councillor Helen McGuire, and of course Vice President John Fraser are all members of voting council. Angelica Lau has taken over as newsletter editor and Stuart Mannering is the new VSP coordinator.

There has been a flurry of activities since they came on board and their contributions have already made a big difference. As we're already half way through the year this is also a timely reminder that some positions will come to the end of their term (WA, SA/NT and ACT councillors on voting council, meeting coordinator, FIMSA and IUIS councillor as non-voting members of council) at the of the year and that this is the time to think about good candidates to fill these positions and whether this might be the year where you'd like to put your hand up and get involved.

The biggest change that has happened within ASI this year has been the change of our secretariat services from an 'in house' service run by Judi, Sarah and more recently Tyani (to fill in for Sarah), to a professional service company AES, headed by Nick Koerbin. The transition is almost complete and I'd like to take this opportunity to

warmly welcome AES to the world of ASI. I also want to encourage membership to actively interact with AES and to address your general questions (deadlines, eligibility, membership etc) to them. Our general e-mail address where queries should be directed to is: admin@immunology.org.au.

As with all changes to systems and services, the transition has initially created a lot of extra work. I do want to give a special mention to three people. Firstly, Tyani Chan who is and has been instrumental in getting the transition underway and is working closely with all members of the AES team to transfer the secretariat / admin services. But particularly, I want to mention Kim Jacobson and Elissa Deenick who both have been working tirelessly during their spare (and sparse) voluntary time to make this happen. For them the transition has created a lot of extra work. Of course this is only temporary,

however it has been a huge effort on their behalf that cannot be thanked enough.

Sadly the transition to a new secretariat also means the end of an era. Judi Anderson has been working with ASI for more than 20 years – first as an employee of a secretariat service provider and then as a contractor in her own right. She has seen and been part of ASI's journey. Judi has been incredibly loyal and supportive of us over the years. Many of you would have had interactions with her over the years and would have experienced her helpfulness and diligence first hand. We are immensely thankful to her. You can read more about her journey with ASI in an article in this newsletter.

The biggest change that has happened within ASI this year has been the change of our secretariat services from an 'in house' service.



ASCIA WA IMMUNOLOGY DAY 2018 - THE WA ASCIA GROUP RAN THE HIGHLY SUCCESSFUL 8TH ASCIA WA IMMUNOLOGY DAY (WAID) ON 2 JUNE 2018, WITH MORE THAN 70 PARTICIPANTS. THIS EVENT HIGHLIGHTED RECENT ADVANCES IN THE COLLABORATION BETWEEN ASCIA AND ASI, WITH THE MEETING CHAIRED BY PROFESSOR MICHAELA (ASCIA WA CHAIR) AND PRESENTATIONS BY DR WILLIAM SMITH (ASCIA PRESIDENT), DR SUSANNE HEINZEL (ASI PRESIDENT) AND DR CONNIE JACKMAN (ASI WA CHAIR).

We've also been focussing on strengthening our interactions with other societies within Australia and outside. In particular we are working to build a closer relationship with our sister society ASCIA. There is a lot of interaction happening at the national and local levels. For example, I was privileged to speak at the local ASCIA meeting in WA last week. There I also had the chance to catch up with the current ASCIA president William Smith and the WA ASCIA representative Michaela Lucas, who is also a long standing and very active ASI member, to talk about ideas to further improve our collaborations. We are also working on integrating ASCIA into our meetings (and vice versa) and William is a member of the Adelaide 2019 LOC for that purpose.

As you may remember we also had several requests by societies from other countries to contribute to their meetings. These requests are a wonderful opportunity to make a real difference to our early to mid-career scientists. Joshua Ooi was selected to present at the SBI meeting in Brazil. We were also able to send 5 ASI members to the 10th anniversary of the Singaporean Society for Immunology. Antje Blumenthal, Emma Hamilton-Williams, Lisa Mielke, Scott Mueller and Clare Slaney were selected from about 35 expressions of interest we received. In return we will host a group from Singapore at the 2018 ASI meeting in Perth. The selection of speakers was done in collaboration with the hosting societies and led to an outstanding group of people representing ASI at both

occasions. Over time I assume there will be more and more of these requests and we might consider initiating them ourselves.

The ASI council meets twice a year, mid year and then just before the annual scientific meeting and I'm writing this just as I come out of the mid year council meeting. Council meetings are always a wonderful way to remind us of the purpose of the society, which is to advance immunology and to support our members. Council is working hard to fulfil these goals and I believe that we are on the right track.

As an immediate measure to support our members we have decided to double the funds that go into our travel awards. This means that we now have an annual budget of \$105k to support international travel (Miller, Ada, and ITAs) (equalling >30 members per year to attend international meetings) and \$40k for travel bursaries (around 40-50 students and early career postdocs) to attend our own meeting. Discussion on other ways how to best support our membership are ongoing (and we'd still love to hear suggestions about this).

As an exciting new initiative, we are on track to provide onsite child care facilities during the ASI meeting in Perth. It will be a first for us and we are very excited to see how this works out. The cost will be partially subsidised by ASI and expression of interest in the facilities is linked to the registration page of the meeting. This will hopefully make it easier for parents to attend our meetings and we are hoping it will serve as a model for other organisations too.

I'm looking forward to a productive and positive second half of the year. ■

FROM THE OUTGOING ASI SECRETARIAT

JUDI ANDERSON

After many years working in advertising and public relations in Melbourne and London, I joined the Victorian Medical Postgraduate Foundation (VMPF) around 1990 as editor of their quarterly magazine and handling general administration where I remained for 10 years. VMPF provided educational services to GPs and overseas doctors seeking registration, as well as providing secretariat services to three organisations. For ASI these services included maintaining of the membership database (new memberships and renewals), preparing and distributing the quarterly newsletter, and basic accounting for ASI income and expenditures. I didn't work on the ASI account until the last few years of my time with VMPF.

At the end of the 90s, VMPF lost its main source of income – funding from the Victorian government – and went from

The ASI newsletter editor back then sourced feature articles, I liaised with ITA winners, Branch Councillors and advertisers, then formatted the newsletter before it was printed, enveloped and mailed out.



JUDI SHOWING KIEWA HER AWARD

a dozen staff to 1.5 persons. It could not continue to provide secretariat services and I was one of the majority of the staff losing their jobs, so I decided to start my own business, Judi Anderson Secretariat Services, and continued providing services to the organisations VMPF had been looking after.

Setting up my business coincided almost exactly with

the introduction of the GST – a headache for all concerned, with new procedures and forms required.

Although we had email, most things were still done using printing companies, Australia Post and cheque books – internet banking was still in the future. The ASI newsletter editor back then sourced feature articles, I liaised with ITA winners, Branch

Councillors and advertisers, then formatted the newsletter before it was printed, enveloped and mailed out. Membership applications back then required paper forms signed by two nominating members. Renewal notices were printed and posted out along with personalised update forms for members to advise changes to their details. Renewals were by cheque and credit card, with those processed by handwritten individual vouchers posted to members with a receipt.

Back then, there was no set term of office for the newsletter editor and at one stage, in the early 2000s, there was an editorial committee of four. Some of the editors I worked with in those early days were Nicholas King, Miles Davenport, Phil Hodgkin, Margaret Cooley, Margaret Baird. Photos didn't become a regular part of the newsletter until around 2002. Most of my contact was with the Honorary Secretary and some of those I worked with were Jane Allan, Geeta Chaudhri, Jose Villadangos, Susanne Heinzel (the current President). I also used to attend the Mid Year and End of Year Council meetings and take Minutes. It wasn't until 2009 that the Honorary Secretary took over these responsibilities, sensible, as they were involved in day-to-day decision-making.

Technology streamlined procedures and the amount of manual handling required gradually reduced. Nowadays we only have one member who pays by cheque – we've moved from a majority paying via credit card to virtually everyone paying through PayPal linked to the online database. The move to PayPal and the online database has occurred over the past five years or so, along with a ASI member taking on website management

and general management under the direction of the Council, including membership application and renewal processes, all linked through the website. Payments are now by EFT, including overseas payments – no more trips to the bank to organise international bank drafts which often caused headaches for bank staff when we were reimbursing Visiting Speakers from all over the world. Just a couple of years ago the newsletter was completely re-vamped with the editor responsible for design, layout and sourcing all materials; it is no longer printed and posted – all done electronically these days.

I got a 'kick' out of seeing ASI members (especially those I'd worked with personally) in the news with breakthroughs in Immunology – though I have to admit I still don't understand what you do, even after all this time.

I have seen many changes over the 20+ years I have worked for ASI. I've had a lot of close working relationships with many newsletter editors, Council members and Branch Councillors and have enjoyed it all very much. I got a 'kick' out of seeing ASI members (especially those I'd worked with personally) in the news with breakthroughs in Immunology – though I have to admit I still don't understand what you do, even after all this time.

Technology has helped me reduce my working hours and with the changeover of the Secretariat to Association Executive Services (AES), I will be able to devote more time to my personal passions – traditional jazz (as a listener, not a musician) and Morgan horses. I have been involved with the Victorian Jazz Club (VJC) for more than 50



JUDI DRIVING HER PURE BRED MORGAN GELDING, MT TAWONGA KIEWA

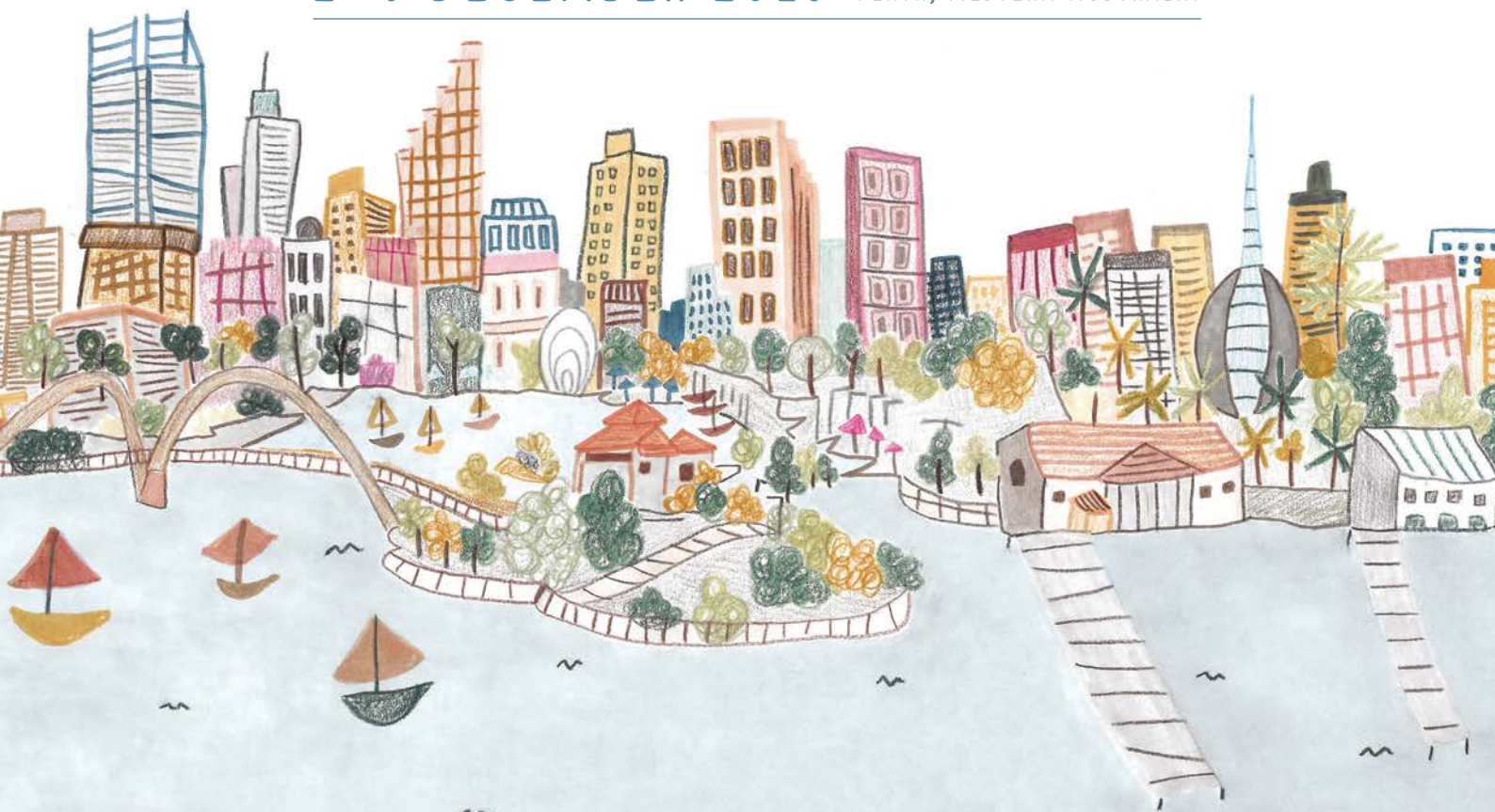
years and with the Morgan Horse Association of Australia since just after its inception in 1990 and have been honoured to be awarded Life Membership from both. I was especially honoured to receive the 2017 International Award from the American Morgan Horse Association for my "contribution to the breed". My pure bred gelding, Mt Tawonga Kiewa, is now retired at age 27 but has won many awards himself, including Supreme Morgan Exhibit under an American judge at the Association's annual show some years ago.

I have been associated with the VJC's magazine and am currently its production editor. With the freeing up of my time, I'm planning to volunteer with the Australian Jazz Museum, which collects, archives and disseminates Australian jazz. It's not hard to give to 'causes' about which you are passionate, as is obvious from the enthusiasm I have seen with those who have participated in ASI activities.

I wish everyone associated with ASI all the best for the future and look forward to hearing about advances in Immunology which will benefit everyone. ■

47TH ANNUAL SCIENTIFIC MEETING OF THE AUSTRALASIAN SOCIETY FOR IMMUNOLOGY

2-6 DECEMBER 2018 PAN PACIFIC HOTEL
PERTH, WESTERN AUSTRALIA



SPEAKERS

Fiona Powrie

University of Oxford, UK

Ido Amit

Weizmann Institute of Science, Israel

Ellen Rothenberg

California Institute of Technology, USA

Andrea Schietinger

Memorial Sloan Kettering, USA

Luke O'Neill

Trinity College Dublin, Ireland

Graham Pawelec

University of Tuebingen, Germany

Paul Klenerman

University of Oxford, UK

Yuval Rinkevich

Helmholtz Zentrum München, Germany

Cecile King

Garvan Institute, NSW

Sharon Lewin

University of Melbourne, VIC

Alistair Forrest

Harry Perkins Institute of Medical Research, WA

Kate Schroder

University of Queensland, QLD

Mimi Tang

Murdoch Children's Research Institute, VIC

Axel Kallies

Walter and Eliza Hall Institute, VIC

Stuart Tangye

Garvan Institute, NSW

Meredith O'Keeffe

Monash University, VIC

Ruth Ganss

Harry Perkins Institute of Medical Research, WA

www.asi2018.org

47TH ANNUAL SCIENTIFIC MEETING 2ND-6TH DECEMBER 2018, PERTH WA

CONNIE JACKAMAN AND SCOTT FISHER, ASI2018 CO-CHAIR

On behalf of the organising committee we invite you to join us for the 47th Annual Scientific Meeting to be held 2nd-6th December 2018 at Pan Pacific Perth, Western Australia. We are putting together an exciting program with key dates below:

Abstracts Open:

Monday 2nd July 2018

Abstracts Close:

Friday 31st August 2018

Registration fees for members:

\$650 early bird member
(or \$750 after)

\$395 early bird student member
(or \$475 after)

Confirmed international speakers

include: Fiona Powrie, Ido Amit, Ellen Rothenberg, Andrea Schietinger, Luke O'Neill, Graham Pawelec, Paul Klenerman, Yuval Rinkevich, Florent Ginhoux, Bing Su, Daniela Frasca, Lai Guan Ng and Nicholas Gascoigne.

This year we will also be incorporating an 'amazing race' into the exhibition booths whereby you will have the opportunity to 'perform an experiment' by racing through the different booths.

Perth has seen an amazing expansion in the last five years with an array of small bars, restaurants, shopping and cultural

areas. December is a great time to visit and explore the city and beyond, particularly as there are cheap airfares on at the moment! We also encourage you to bring your family, for the first time childcare facilities will be hosted on site. We look forward to seeing you there! ■

Please visit the website for more details: www.asi2018.org

We also encourage you to bring your family, for the first time childcare facilities will be hosted on site.



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THE IUIS CORNER

J. ALEJANDRO LOPEZ

Here is a brief update of the news coming from IUIS. If you wish to follow the news coming directly from the IUIS, visit the www.iuisonline.org.



This IUIS website is undergoing a substantial restructuring with the aim at making it more prominent in the educational resources that it has to offer. It is expected to launch in early 2019.

You can now also follow IUIS activities on Twitter: https://twitter.com/iuis_online

IUIS NEWSLETTER

The latest issue of the IUIS newsletter is available from this link: <https://mailchi.mp/kit-group/iuis-online-and-around-the-world-1081893>

IUIS COUNCIL MEETINGS

The last council meeting took place in Cancun on May 14-18, in the context of the meeting of the Latin American Congress of Immunology. Australia was represented by Ros Kemp (IUIS General Secretary) and Menno van Zelm from Monash who was chairing the Nomenclature group meeting.

MORE ASI MEMBERS CONTRIBUTING TO KEY IUIS ACTIVITIES

In addition to the very important job of Roslyn Kemp from University of Otago as Executive

Secretary-General of the IUIS, an increasing number of members of the ASI are also making important contributions to the work at the IUIS.

Stuart Tangye from the Garvan recently started his tenure as Chair of the Inborn Errors of Immunity (IEI) committee.

Di Yu from ANU was elected as new member of the Publications committee, reinforcing the presence of the FIMSA countries. This followed a call open to all ASI membership and with the participation of 9 candidates.

Natkunam Ketheesan from the University of New England is now one of the Immunopaedia

ambassador and has contributed with the educational video "Immunology in 333 seconds" (<https://www.immunopaedia.org.za/our-ambassadors/oceania/>).

There are multiple opportunities to contribute and learn from colleagues around the world at the same time as you may be earning those precious professional contribution points enhancing your career development profile.

FRONTIERS IN IMMUNOLOGY

The official journal of the IUIS has increased its impact factor to 6.429, which is fantastic. It currently boasts of being the largest and most cited open-access journal.



IUIS-FAIS-SMI MOROCCO COURSE

The official journal of the IUIS has increased its impact factor to 6.429, which is fantastic.

The IUIS has a commitment to the support of the official journal. One form of this support is with the generation of Research Topics. The Publications Committee actively seeks for editors for a special focused group of publications (Research topics) amongst immunologists willing to contribute with gathering articles of their research interest. Now, members of the Council and of chairs of each of the IUIS committees will also seek for these contributions. Great news – an incentive of \$2000USD has been approved by the council for the editors recruited via the IUIS, which will help paying for their own publications expense.

ACTIVITIES OF THE EDUCATION COMMITTEE

A very energetic Education committee supports a number of courses and there is always room to participate. Indeed, a course in the FIMSA region (most likely India) this November is on the cards and being organised.

- IUIS-FAIS-SMI-Immuno-Morocco 2018: 2nd Regional North African Immunology Course on "Cancer, Inflammation and Immunotherapy": 3-7 April 2018, in Fes/Morocco
- ISIA-IUIS Advanced Course on Immunotherapy, Tehran/Iran, 23-25 April 2018
- Stipends for the German Society for Immunology (DGfI) Spring School in Ettal, Germany (18-23 March 2018)
- Travel awards for AAI Introductory course (10-15 June 2018) and AAI Advanced course (23-27 July 2018)

- IUIS-FAIS Immuno-Kenya Course on "How viruses hijack host immunity leading to cancers" is planned to take place at the KCB Leadership Center in Nairobi/Kenya from 23 to 28 September 2018
- IUIS-ALAI Immuno-Informatics course Mexico April 2019

INTERNATIONAL DAY OF IMMUNOLOGY AWARDS - 2019

Next year's theme of the DoI will be Cancer Checkpoint Blockade.

IUIS has now established special Awards totalling 5000 euros that will be given once every 3 years for the 4 best public relations campaigns of the Day of Immunology for 2017, 2018 and 2019:

- International Day of Immunology Award, by IUIS - 2000 euros for the best international campaign
- European Day of Immunology Award, by EFIS - 2000 euros for the best campaign in Europe, where the annual DoI has been celebrated since 2005

- Award for the Best Newcomer Campaign, by EFIS – 1000 euros for the best campaign organized by a candidate participating in the DoI for the first time

Best 2017, 2018 or 2019 Theme Award, by IUIS – 1000 euros for the best campaign organized by a candidate participating in the DoI, which corresponds to one of the year's themes (IGE-Allergy 2017, Vaccine Developments in Tuberculosis 2018, Cancer Checkpoint Blockade 2019)

IUIS 2019 Beijing (The 17th International Congress of Immunology) will take place at the Chinese National Convention Centre in Beijing, from October 18 - 23, 2019. The Scientific Program Committee will be chaired by Xuetao Cao and Vijay Kuchroo will serve as vice-Chair.




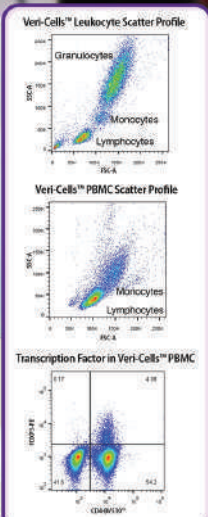
Important dates: iuis2019.org

- Early Registration opens November 2018
- Abstract Submission opens September 2018

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IN MEMORY OF DEREK HART: DENDRITIC CELL PIONEER

MARK HOGARTH, GEORGINA CLARK AND BARBARA FAZEKAS

Professor Derek Hart was a pioneer of the human dendritic cell field. He was the first to identify human dendritic cells and developed this important discovery into an inspired program of research that encompassed fundamental science combined with development of novel therapeutics including dendritic cell vaccines and monoclonal antibodies.

Derek was a clinician and a researcher who saw medicine and science as intimately linked: for him, aspiration to best practice in one field drove best practice in the other. His career was one of indefatigable commitment to clinical practice and 'translational' research. The breadth of his vision was evident at every major milestone of his career.

Derek Hart was born and educated in New Zealand, graduating with distinction from the Faculty of Medicine at the University of Otago in 1976. After graduation he won a Rhodes Fellowship to the University of Oxford, which he took up at Brasenose College and the Nuffield Department of Surgery, under the supervision of Sir Peter Morris. He submitted his DPhil on transplantation antigens in 1981. The time at Oxford was pivotal for Derek. He learned how to make monoclonal antibodies from Caesar Milstein, and made some of the first monoclonal antibodies to histocompatibility antigens. Little known is the fact that he

contributed the blood sample that Andrew McMichael used to define HLA-A0201. It was during this time, while studying expression of HLA-antigens on human renal tissue, that he identified morphologically unusual interstitial cells with branched dendrite-like cytoplasmic extensions ... the human dendritic cell had been discovered. This crucial finding underpinned his career-long pioneering research on dendritic cells and their manipulation in transplantation and ultimately in immune therapy. In one of his seminal papers published in 1981, he predicted that monoclonal antibodies would be useful for controlling immune responses in transplantation and cancer therapy.

Derek returned to Christchurch in 1983, completed his haematology training, and with his mentor Dr Mike Beard published an indispensable guide for junior doctors in the initial treatment of medical problems. This became an invaluable companion to all hospital resident doctors, and has remained in print with constant updates since then. He was appointed Head of the Clinical Haematology and Bone Marrow Transplant Units and set up his first dendritic cell laboratory. He convinced Georgina Clark, who was working in the Nuffield Department of Surgery, to join the department in Christchurch as the driving force behind molecular-based discovery and



DEREK HART, PIONEER OF HUMAN
DENDRITIC CELL (1952 – 2017)

characterisation of cell surface molecules. This was the start of the highly productive Hart/Clark team that produced much influential research on human dendritic cell immunology and dendritic cell role in disease. Derek was instrumental in bringing immunology into the clinical laboratories in Christchurch, setting up immunophenotyping for leukaemias and lymphomas and bringing MRC sponsored trials for new therapies to New Zealand patients with haematological cancers.

Opportunity arose to establish a new research institute at the Mater Hospital in Brisbane and in 1998 Derek was appointed as the inaugural Director. He set out with his usual energy to establish the Mater Medical Research Institute as an international research hub,

actively recruiting researchers from around the globe. Together with Ian Frazer, he initiated the development of the Translational Research Institute in Queensland before being recruited in 2000 to the ANZAC Research Institute and the University of Sydney as Professor of Transplantation and Immunotherapy and NHMRC Senior Principal Research Fellow.

With the move to Sydney and the establishment of the Dendritic Cell Research group at the ANZAC, Derek and Georgina brought together postgraduate students, oncologists, transplanters, immunologists, haematologists and many other to integrate and apply the research of three decades into active programs across clinical departments in the University of Sydney and its associated hospitals and institutes. During this time, Derek was recognised as a Paul Harris Fellow, and a Royal College of Pathologists Distinguished Fellow, amongst numerous other accolades. Derek's commitment to the importance of science in medicine and the central place of the clinician scientist in improving medical care inspired a generation of researchers and his legacy will continue through the Dendritic Cell Research group at the ANZAC Research Institute.

Derek firmly believed that Australian medical research generally, and immune therapy in particular, should be actively moved to clinical testing, and that a strong Australian focus should be retained throughout the entire clinical trial process. The vision of the self-perpetuating virtuous cycle of research/investment/clinical testing/effective new medicines/industry development is shared by many, but Derek was one of the very few who implemented it by drawing together commercial experts, creating a company structure and

Derek was a generous colleague and friend. He mentored numerous clinician and basic scientists, establishing many in their careers.

persuading financiers to invest. To set up DendroCyte BioTech Pty Ltd, which holds IP around immune therapies including DC vaccines, monoclonal antibody therapeutics and immune diagnostics, he and Georgina mortgaged the house - a perfect example of Derek's belief that one should put one's money where one's mouth is. DendroCyte BioTech is committed to bringing novel immune therapies into clinical practice, the first of which is a human monoclonal antibody that targets and deletes human dendritic cells as they become activated, preventing the detrimental immune response but leaving the rest of the dendritic cell compartment intact for future immune protection. This will be developed for the prevention of graft versus host disease in a clinical setting.

Derek was a generous colleague and friend. He mentored numerous clinician and basic scientists, establishing many in their careers. Many benefited from his tireless efforts to promote the study of dendritic cells. He enticed Ralph

Steinman to Australia to talk at the first DC Symposium held in conjunction with the opening of the Mater Medical Research Institute. Free registration and vigorous discussion were the established principles at this annual symposium, which continues at the ANZAC where the DC Down Under meetings are an annual highlight for the Australasian dendritic cell research community.

Despite ultimately settling in Australia, Derek retained great affection for New Zealand and its sporting output - in particular, the exploits of the All Blacks and the New Zealand America's Cup sailors who reflected his own interests as a university rugby player and dedicated sailor.

Derek faced his final illness with immense courage. As death from metastatic cancer approached, he redoubled his efforts to pursue the goals that had inspired him throughout life. The loss to immunology and medical research from the premature end to his career will be compensated by the legacy he made with every effort, right up until his last days, to bequeath. We and the rest of the world will benefit for years to come. ■



DEREK, MENTOR TO SCIENTISTS AND CLINICIANS, ANZAC INSTITUTE

DAY OF IMMUNOLOGY 2018

DR GABRIELLA KHOURY

Once again it is fabulous to see the growing interest from our ASI members in engaging the public with immunology. In 2018 we have seen the roll out of our national Day of Immunology logo (designed by Jie Zhou) and new branding (you can get a taste in the right panel). We have also welcomed two new organising committees - NSW and Tasmania. Thank you to Helen McGuire, Angelica Lau, Derek Williamson and Fabio Luciani (NSW) and Kristof Wing (Tasmania) for your hard work expanding Day of Immunology into your states.

This year was by far the largest and best range of events we have hosted to date. Five public lectures were hosted in 5 states! Multiple primary and secondary school workshops were held in Victoria and Queensland. Eleven research institutes around Australia opened their doors to the public by running discovery tours. The NSW committee reached out to students in regional NSW with their innovative event "Facetime with a scientist". There was also a museum exhibition, immunology pub trivia, a flashmob and a

This year was by far the largest and best range of events we have hosted to date. Five public lectures were hosted in 5 states!



29TH APRIL

AUSTRALIA AND
NEW ZEALAND

**DAY OF
IMMUNOLOGY**



Australasian Society
for Immunology Inc.



MELBOURNE PUBLIC LECTURE – IMMUNOTHERAPIES TO TREAT DISEASE. PROF ROBYN O'HEHIR (SPEAKER). PHOTO COURTESY OF HYNESITE PHOTOGRAPHY.



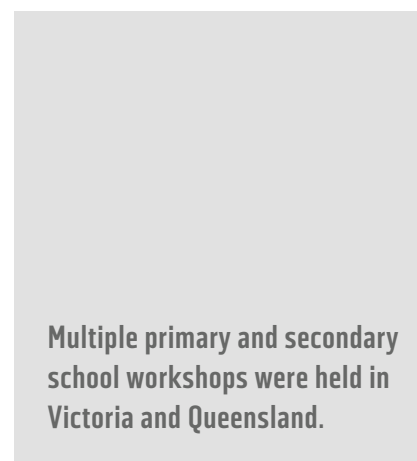
DAY OF IMMUNOLOGY VOLUNTEERS DISCUSS THEIR RESEARCH WITH FEDERAL GREENS MP ADAM BANDT . PHOTO COURTESY OF HYNESITE PHOTOGRAPHY.



DAY OF IMMUNOLOGY VOLUNTEERS MET WITH VICTORIAN STATE HEALTH MINISTER JILL HENNESSY (DEPARTMENT OF HEALTH AND HUMAN SERVICES). PHOTO COURTESY OF HYNESITE PHOTOGRAPHY



CAREERS IN IMMUNOLOGY SESSION. DR JESSICA BORGER DISCUSSES A CAREER IN RESEARCH WITH SECONDARY STUDENTS AND GTAC SECONDARY SCHOOL WORKSHOP. PHOTO COURTESY OF HYNESITE PHOTOGRAPHY.



Multiple primary and secondary school workshops were held in Victoria and Queensland.



ASI PRESIDENT SU HEINZEL DISCUSSED IMMUNOLOGY WITH THE MEDIA AT THE MELBOURNE VACCINATION CAFÉ. PHOTO COURTESY OF HYNESITE PHOTOGRAPHY.



CAREERS IN IMMUNOLOGY SESSION. PHOTO COURTESY OF HYNESITE PHOTOGRAPHY.



FLASHMOB – DANCING FOR IMMUNOLOGY. PHOTO COURTESY OF GABRIELA KHOURY.

vaccination café! In Victoria I attracted Federal Minister Adam Bandt, Victorian Health Minister Jill Hennessy and documentary film director Sonya Pemberton to the Melbourne vaccination café.

Congratulations to all of the organising committees and thank you to all the volunteers who contributed their time to make 2018 such a successful year. Enjoy reading the Day of Immunology featured articles in this issue!!!

I'm already looking forward to 2019! Rumour has it that Day of Immunology will be reaching Canberra! ■

Eleven research institutes around Australia opened their doors to the public by running discovery tours... There was also a museum exhibition, immunology pub trivia, a flashmob and a vaccination café!



PART OF THE FLASHMOB – DANCING FOR IMMUNOLOGY. PHOTO COURTESY OF GABRIELA KHOURY.

THANK YOU FLASHMOBBERS!

This is a chronical all about how,
a squad of scientists turned Melbourne upside down!

One fine day with a step and a clap,
a pod of purple dancers began to click and tap!

Dr Catherine Osborne counted them in,
and crowds of Melburnians stared on with big grins!

Shoppers and city slickers watched with wonder,
as synchronised scientists tried to dance without blunder!

A happy beat filled the air,
from Bourke Street Mall to Federation Square!

Catherine called the chorey ... High! Low! and Rainbow!
In a flash it was all over, the end of the show!

The hive of entertainers buzzed here and bounced there,
spreading the good word of vaccine science to whom had a care!

At the booked-out vax café with coffee in hand,
Jill Hennessey thought the flash mob performances were grand!

Thank you to all who shared the good vibe,
from all of us here at the JLR tribe.



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DAY OF IMMUNOLOGY IN VIC

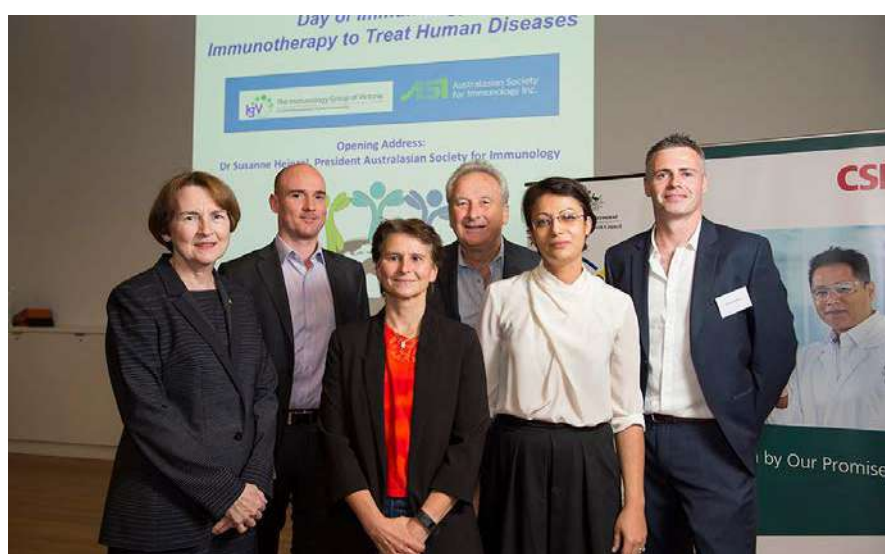
DR. KIM PHAM

VIC Day of Immunology coordinator and chair (2016-2018)

International Day of Immunology in Victoria was celebrated by a staggering 14 events, engaging over 1500 members of the public and students. A cast of at least 50 enthusiastic ASI scientists from all over Melbourne celebrated immunology through:

Public Lecture on ‘Immunotherapy’:
We had a fully booked event of over 250 attendees at the Doherty Institute. The lecture was opened by ASI’s president Su Heinzel and chaired by Associate Professor Edwin Hawkins (WEHI). This year’s speakers included Professor Robyn O’Hehir AO (Monash) on thunderstorm asthma immunotherapies, Professor Tom Kay (St. Vincent’s Institute) on immunotherapies for diabetes, and Dr Shahneen Sandhu (Peter MacCallum Cancer Centre) on cancer immunotherapies.

Workshops for Secondary School Students: Four workshops were held collectively at GTAC (Parkville), Federation University Ballarat and Federation University Berwick, educating 320 Year 12 student school groups with full day practical immunology workshops and lectures by prominent immunologists followed by scientific career planning sessions. Notable speakers included Sir Gus Nossal, Professor Phil Hodgkin, Professor David Tarlinton and Dr Morgan Wallace.



L-R: PROFESSOR ROBYN O'HEHIR, ASSOCIATE PROFESSOR EDWIN HAWKINS, ASI PRESIDENT SUSANNE HEINZEL, PROFESSOR TOM KAY, DR SHANEEN SHANDU, DR. DANIEL PELLICI. PHOTO CREDIT: MONASH UNIVERSITY, HYNESITE PHOTOGRAPHY



ASI SCIENTISTS SUPPORTING IMMUNITY OF THE COMMUNITY AT THE VACCINATION CAFÉ. PHOTO CREDIT: MONASH UNIVERSITY

Vaccination Café: Approximately 650 members of the public entered Melbourne Town Hall and were given a chance to speak to ASI member scientists about the science of vaccination, including those from Monash Alfred Medical Research and Education Precinct (AMREP), The University of Melbourne Department of Microbiology and Immunology, CSIRO, Hudson Institute of Medical Research, Peter Doherty Institute (PDI), and WEHI. Educational videos on the immune system and immunisation science from WHO Flu Centre, Sonya Pemberton (producer of Jabbed- Fear of Vaccines), Immunisation Coalition and WEHI were on display as the public received their double shot of influenza vaccines and complimentary coffee. ASI president Susanne Heinzel attended the vaccination café, as well as Federal Minister for Melbourne Adam Bandt and the Victorian Health Minister Jill Hennessy who thanked ASI scientists and immunisation nurses to contributing to “immunity for the community”. There was even an immunology flash mob dance!

Discovery Tours: Eight research institutes and universities around Melbourne opened their doors to the public to raise awareness of the importance of our immune system. Over 300 members of the public registered to attend these tours, which gave a glimpse to cutting-edge immunology research being done in Victoria. We thank the following institutes and University departments: AMREP, Burnet Institute, Hudson Institute of Medical Research, La Trobe Institute for Molecular Science (LIMS), Monash Biomedicine Discovery Institute, PDI, Peter MacCallum Cancer Centre, and WEHI.

Thank you to our sponsors for supporting our events, and again to the scientists from all over Victoria. It has been a pleasure seeing the Victorian events grow in size and impact. ■



HIGH SCHOOL WORKSHOPS AT GTAC, PARKVILLE. PHOTO CREDIT: MONASH UNIVERSITY



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DAY OF IMMUNOLOGY IN NSW

DAY OF IMMUNOLOGY DISCOVERY TOURS AT THE GARVAN INSTITUTE

ANGELICA LAU AND
JOANNE REED

On the fateful day of May 4th (and multiple references to Star wars, undoubtedly), Garvan Institute hosted 60 students from years 10 – 12 from 6 different high schools. Our very own Professor Stuart Tangye set the scene with an introduction to basic immunology, likening the adaptive immune system to the “storm troopers” keeping in place the rebel “infections” while Professor Tony Basten followed with insights into clinical immunology, putting the importance of Immunological research into context.

Armed with a new appreciation for the immune system, the students headed to the lab to get some hands on experience with the everyday technologies we use to research the immune system and all its complications.

We were very grateful to have the support from both students and researchers from the Garvan Immunology Division to help us run this event as well as the financial support from the Garvan Foundation. We particularly would like to thank the fantastic and enthusiastic team of volunteers: Julia Bier, Megan Faulks, Julia Kiss, Wenyan Li, Imogen Moran, Bethany Pillay, Hira Saeed, Melissa



SNAP SHOT AT THE GARVAN DISCOVERY TOUR, STUDENTS FROM VARIOUS SCHOOLS PARTICIPATING IN HANDS-ON LABORATORY ACTIVITIES INCLUDING MICROSCOPY, ELISA, GEL ELECTROPHORESIS

Armstrong, Peter Schofield, Stacey Walters and Clara Young) who tirelessly demonstrated and encouraged the students to take part in laboratory activities including flow cytometry, cell culture, microscopy, gel electrophoresis, cloning, enzyme linked immunosorbent assay and Biolayer Interferometry.

One of the most popular activities was the Garvan-Weizmann Cell Observatory – an interactive virtual reality game designed to engage and educate students about cellular genomics. All students and teachers were encouraged to ask questions and have a go at the lab activities. After all the fun in



DR ANGELICA LAU & DR JOANNE REED
COINCIDENTALLY MATCHING FOR THE
DAY OF IMMUNOLOGY!



COORDINATORS JOANNE AND ANGELICA (MIDDLE) WITH JULIA KISS (2ND FROM RIGHT)
FROM THE GARVAN FOUNDATION AND HER TEAM OF VOLUNTEERS

the lab, the students gathered for a careers session with three engaging speakers at different stages of their careers. Debbie Burnett – Immunology PhD student, Dr. Katherine Jackson – Computational Immunologist and Dr. Marie Dziadek – Garvan's Chief Scientific Officer, each spoke about their career and all the experiences that went with it. The day concluded with a Q&A session with prizes awarded to students with the most insightful questions. The students showed great interest and asked interesting questions! We thank the Garvan Foundation for sponsoring this event and we look forward to continue celebrating the Day of Immunology and supporting this wonderful opportunity to engage and educate the young bright minds out there.

Check out Garvan's coverage of our amazing immunology celebration! ■

www.garvan.org.au/news-events/news/day-of-immunology-engaging-a-new-generation-of-researchers



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Recent publications:

Thientosapol ES *et al.* (2018) SAMHD1 enhances immunoglobulin hypermutation by promoting transversion mutation. *Proc. Natl. Acad. Sci. USA* In press.

Byrne F *et al.* (2018) The glucose transporter GLUT6 has minimal effects on whole-body metabolic physiology in mice. *Am J Physiol Endocrinol Metab.* In press.



Australian BioResources



DOI AT THE MUSEUM OF HUMAN DISEASE, UNSW

FABIO LUCIANI, UNSW

We have partnered with the Museum of Human Diseases at the UNSW Campus in Randwick, Sydney to establish a closer contact with general public and notably schools!

Face-time with an immunologist for high school students

As tradition of DoI in NSW, we have run for the 5th year in a row the “face-time with an immunologist”. Derek Williamson, director of the

Museum of Human Disease has established a wonderful program with NSW Schools. On May 1st, students from years 11 and 12 engaged with several PhD students and early career researchers (from University of Sydney; Caroline Ashley, Tessa Campbell, Chelsea Gerada, Kevin Zhang, and from the Garvan Institute; Angelica Lau and Simon Pelham) on how the immune system works, and also to discuss career paths. It was

great to see students asked many questions and Derek received good feedback on how helpful this activity was for them.

During the week of DoI, we organised two teams of PhD students and early career researchers to meet with 5 schools across NSW. Two of these physically visited the Museum, while the rest was via educational teleconference interface Dart Connections.org.au. This experience aimed to provide support for their HSC studies and syllabus, as well as to give these young minds some “directions” on what research is, how to best choose their career path at a University and to have a clearer understanding of what research comprises of and how this can be helpful for the broader society.

Engaging with general public

This year DoI was close to the NSW School Holiday break. We took this opportunity to set up the Museum of Human Disease with several activities and tools that the general public, family and children could use to get some more insight on our amazing immune system.

With courtesy of Dr Tri Phan from the Garvan Institute and the great support of Tim Burykin (Uni Syd) who turned Tri's movie into a 3D interactive display, we set up a virtual reality based on live imaging of B cells in the



ENTHUSIASTIC STUDENTS KEVIN ZHANG, CHELSEA GERADA FACE-TIMING REGION SCHOOLS



THE FACE-TIME CREW (L-R) DEREK WILLIAMSON, SIMON PELHEM, ANGELICA LAU, CHELSEA GERADA, TESSA CAMPBELL, FABIO LUCIANI, CAROLINE ASHLEY

During the week of DoI, we organised two teams of PhD students and early career researchers to meet with 5 schools across NSW.



HIGHLIGHTS AT THE MUSEUM OF HUMAN DISEASE, UNSW, SHOWCASING THE WONDERS OF THE IMMUNE SYSTEM AT DAY OF IMMUNOLOGY 2018

lymph node using intravital live imaging. We had a great group of PhD students, Mikaela Coleman and Jackie Marshall (University of Sydney), Corinne Letendre (Western Sydney University), Angelica Lau (Garvan) that organised a great set of fantastic activities, including a virtual journey on how the “Immune battle” against pathogens. This was based on animated videos that were accessible via scanning

QR codes using smartphones. Four barcodes were positioned throughout the museum rooms and people enjoyed integrating the visit with interacting activities. Other activities included 3D printed antibodies and antigens! Visitors enjoyed how antibodies recognise any sort of structures! There were several materials and prints on vaccination, allergy and general immunology, utilising imaging, quiz and puzzles. ■



ANGELICA LAU & SIMON PELHEM, GARVAN INSTITUTE

DAY OF IMMUNOLOGY PUBLIC FORUM: IMMUNOTHERAPY AND CANCER, 3 PERSPECTIVES

TESSA CAMPBELL AND CAROLINE ASHLEY

Department of Infectious Diseases & Immunology, University of Sydney

Email: tessa.campbell@sydney.edu.au, caroline.ashley@sydney.edu.au

Twitter: @ScientistTess, @Carolinelashley

A recent global survey (3M State of Science Index) found a third of participants were sceptical of science, indicating how crucial it is for the scientific community to work towards better communication and involvement with the general public. The ASI Day of Immunology Public Forum, organised by ASI NSW Councillor Dr Helen McGuire and held on 23rd April 2018 at the Charles Perkins Centre, University of Sydney was an example of the perfect event to facilitate this.



ATTENDEES ENJOYING THE DISPLAY OF IMMUNOLOGY POSTERS



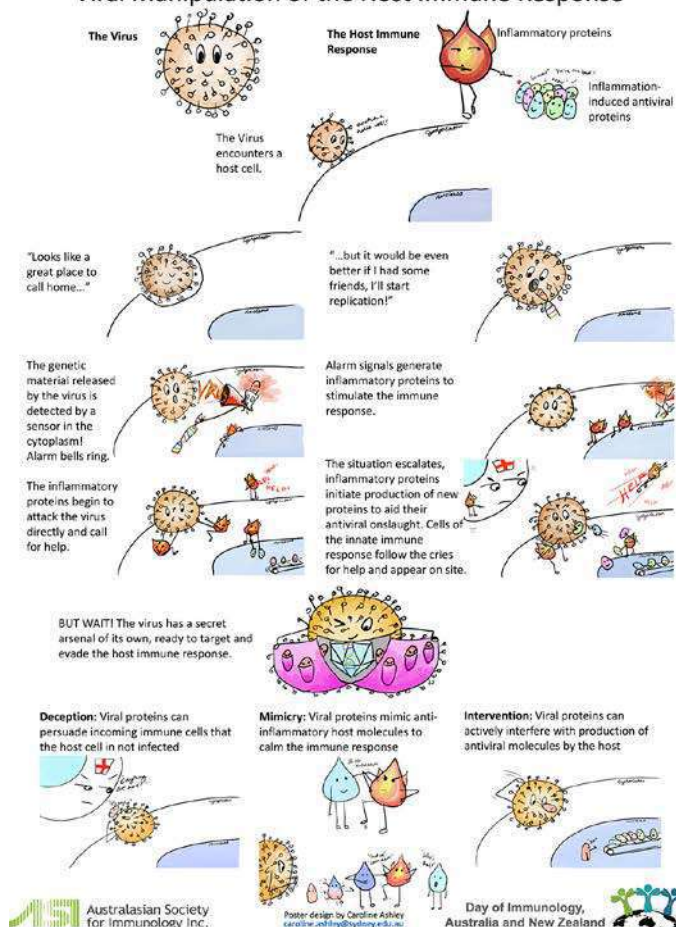
ANSWERING AUDIENCE QUESTIONS AT THE PUBLIC FORUM - L-R: A/PROF ALEX MENZIES, PROF IAN CHUBB, DR JOANNE REED, A/PROF KELLIE CHARLES

The evening began with a unique welcome reception, with drinks and canapes served amongst displays of selected finalist posters from ASI student members. However, far from an intensive conference poster, these displays communicated immunology concepts to the general public, especially tailored to a high school audience. It was fantastic to see attendees engaged and inspired by the immunology, covering topics from vaccination to cells of the immune system.

Attendees were also encouraged to get involved by casting their vote for the People's Choice poster award. By the end of the evening the posters were covered in colourful (and often comical!) stickers reading "This will go viral!", "This poster deserves a *complement*!", "This work is infectious!", and "I ♥ Immunology". The winning posters were 'Viral manipulation of the host immune response' from Caroline Ashley (University of Sydney) and 'Natural killer cells: Ninjas of the immune system' from Tessa Campbell (University of Sydney).

Buoyed by immunology ideas from the posters, attendees were then invited to three inspiring talks presenting different perspectives on cancer, facilitated by A/Prof Kellie Charles (University of Sydney). We first heard from Dr Joanne Reed (Garvan Institute of Medical Research) who gave great insight into how scientists approach the complex field of cancer research. Prof Ian Chubb AC then discussed the impact of clinical trials from a patient's perspective, having recently recovered from cancer. The forum concluded with A/Prof Alex Menzies, a clinician and researcher with the Melanoma Institute Australia, who explained

Viral Manipulation of the Host Immune Response



Tessa Campbell (PhD candidate) | University of Sydney | @ScientistTessa

Natural killer cells: Ninjas of the immune system

What are natural killer (NK) cells?

- NK cells are lymphocytes - a type of **white blood cell**, like T cells and B cells.
- But unlike T cells and B cells which are part of the **adaptive** immune system, NK cells are **innate** immune cells.

Innate immunity vs adaptive immunity

The **innate immune system** responds in a general (nonspecific) way to any threat, acting **immediately**. The innate immune response includes physical barriers like the skin, defensive chemicals like enzymes in tears, inflammation and innate immune cells.

< NK cells | dendritic cells | macrophages | mast cells | neutrophils | eosinophils | basophils >

The **adaptive immune system** are T cells and B cells. They are unique in their ability to specifically recognise a threat in the body, and remember it (called **immunological memory**). T cells and B cells are **slower** to respond, but more **powerful** than the innate immune system.

Where are NK cells?

NK cells patrol the body for problems.

What do NK cells do?

- Like their name implies, NK cells are **killers**. They kill harmful cells in the body - infected, cancerous, stressed or damaged.
- When an NK cell finds a harmful cell, it releases toxic chemicals (called **granules**) that cause the harmful cell to die.
- NK cells also produce **cytokines** - molecules that communicate to other cells to activate and direct the immune response.

NK cells and cancer

- NK cells are important in detecting cancerous cells and **preventing tumour growth and metastasis** (spread of cancer around the body).
- However, tumours try to hide (evade) the immune system.
- To help boost a patient's immune response against cancer, **immunotherapy** can be used, and NK cells are a new focus for these treatment strategies, e.g.
 - Growing up large numbers of NK cells and transferring them into patients.
 - Drugs to improve the activity of NK cells.
 - Checkpoint inhibitors** - a technique to block the **inhibitory** signals that cancer cells use to slow the immune system.
 - Genetically engineering NK cells to better recognise tumours.

NK cells and infection

- While NK cells can help protect against some bacteria and other infections, they are **best at killing virus-infected cells**.
- However, many viruses try to hide from the immune system! Some viruses can stop the infected cell from communicating that it is infected. NK cells must then work hard to **outsmart** viruses.

NK cells and pregnancy

- In the early stages of pregnancy, NK cells can be found in abundance in the uterus and placenta.
- These NK cells are very different to NK cells in the blood.
- These NK cells are not killers, but instead **produce growth-promoting factors** for the foetus and help establish blood supply to the foetus and placenta.

NK cells and you

- Because NK cells can have different combinations of receptors, you have **thousands** of different NK cells! That's one reason **researching the immune system is so interesting - and difficult**.
- You can help keep your NK cells in a fighting action by eating a **balanced diet** and **exercising regularly**.

I am a PhD student researching how viruses affect NK cells. Come say hi! Or follow me on Twitter: @ScientistTessa

THE WINNING POSTERS COMMUNICATING IMMUNOLOGY TO THE GENERAL PUBLIC

the current breakthroughs and developments in cancer immunotherapy.

The Public Forum was a great success for all who attended, thanks to the hard work of organiser Helen McGuire. As scientists, it was an important reminder of the impact our research can have and the people our discoveries can help. For members of the general public who attended, the Forum was an invaluable insight into the powers of the immune system and the work of the Australian scientific immunology community. ■

* [3M State of Science Index, 2018 Global Report](#).



A/PROF ALEX MENZIES DISCUSSING THE BENEFITS OF IMMUNOTHERAPY COMPARED TO TRADITIONAL CANCER THERAPIES

DAY OF IMMUNOLOGY IN QLD

SUMAIRA HASNAIN, QLD COUNCILLOR

First I'd like to acknowledge the Day of Immunology Brisbane Organising Committee: Danielle Stanisic (lead), Ran Wang, Soi Law, Ali Zaid, Burhan Khan, Kirsty Short, Sumaira Hasnain.

ASI-QLD ran very successful DoI events at the Translational Research Institute within the SPARQ-ed (Students Performing Advanced Research Queensland) program. Two separate "Disease Outbreak" workshops were conducted designed especially for 6th and 7th graders. All the students received a DoI-ASI goodie bag at the end which was a hit! The feedback was overwhelmingly positive and ASI-QLD looks forward to continuing these workshops in 2019! A big thank you to all the DoI committee for making the event a success and to the lead Danielle Stanisic and the lead at SPARQed Ayanthi





ASI-QLD ran very successful DoI events at the Translational Research Institute within the SPARQ-ed (Students Performing Advanced Research Queensland) program.

Richards for her input. Thank you to Gabriela Khoury for promoting the event!

Here are some of the lovely feedback we received from the children and families that attended these workshops:

"My daughter had an absolutely brilliant time and she was bursting with excitement about it when she got home. Thank you for providing such a wonderful experience!"

"I just want to say Thank You for allowing my daughter the opportunity to attend this workshop. She thoroughly enjoyed herself, and is still telling family and friends about everything she learnt."

"Thanks Danielle, my son enjoyed his day there. It is not often that Grade 6 kids get to visit a real lab, so thanks for the valuable experience." ■



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DAY OF IMMUNOLOGY IN SA AND NT

IAIN COMERFORD, SA/NT COUNCILLOR

On Friday 27th April the SA/NT branch of ASI held two events for Day of Immunology.

The first event was held at Basil Hetzel Institute at Queen Elizabeth Hospital featuring an institute tour for the public and talks from local immunologists about their work. Presentations were given by Dr Kevin Fenix, Joe Wrin and Zelalem Mekonnen. The event was extremely popular and all available tickets for this event were taken up.

Following the success at BHI, an event was held that same evening at the new Biomedical precinct in Adelaide at the SAHMRI Auditorium. The theme was 'Cancer Immunotherapies' and our invited speakers were Professor Simon Barry, Professor Deb White, Dr Tessa Gargett and Carly Whyte. Our aim was to discuss with

the lay audience new advances in tumour immunotherapies, showcasing local research in this area and answer questions from the public on this topic.

We had a full house with all 200 available tickets taken up. Excellent

talks were given by all and there was a stimulating Q+A session afterwards. A big thank you to our invited speakers for agreeing to give up their Friday night to come along and share their passion for tumour immunology!

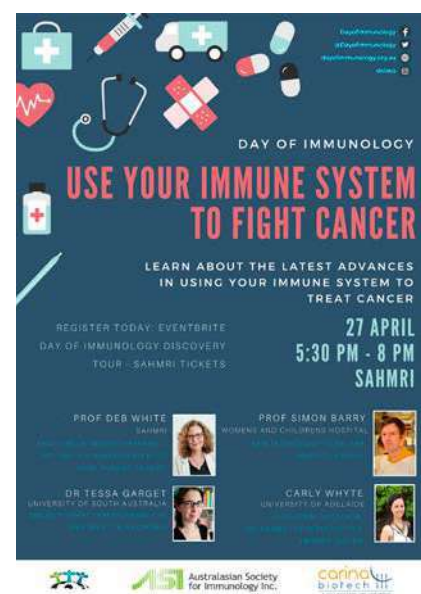
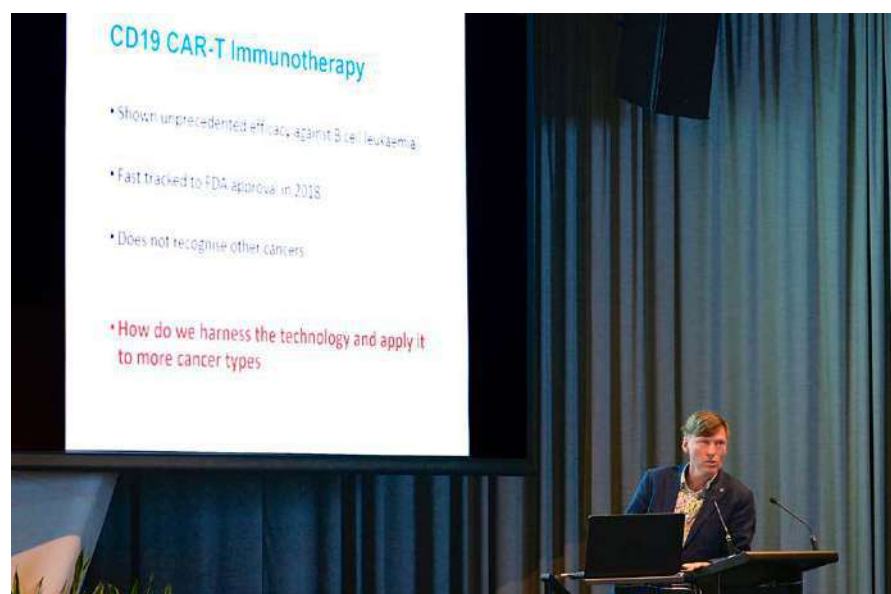


Our aim was to discuss with the lay audience new advances in tumour immunotherapies, showcasing local research in this area and answer questions from the public on this topic.

Organising Committees:

SAHMRI event: Iain Comerford, Damon Tumes, Jasmine Wilson, Tim Tyliss, Todd Norton, Kerrie Foyle, Caitlin Abbott, Nikki Lansdown, Annabelle Small, Maleika Osman, Joe Wrin.

Basil Hetzel event: Danushka Wijesundara, Kevin Fenix, Joe Wrin, Amita Gautam-Ghadge. ■



DAY OF IMMUNOLOGY IN NZ

DR. EMILY BISSET

The International Day of Immunology was celebrated in Otago by holding a DoI Quiz Night. As usual, there was a great turn out of approximately 80 staff and students from the University, as well as quizzers from the wider Dunedin community.

The quiz was run with a format of an interesting immunological fact following by a linked general knowledge quiz question. For example; Vaccination can be considered a training course for the immune system. Vaccination currently prevents between 2-3 million deaths each year. Q: Which sportsperson is New Zealand's highest earner, with a salary of approximately \$35 million? (a) Steven Adams, (b) Scott Dixon, (c) Lydia Ko, (d) Winston Reid.



QUIZZERS



QUIZ MARKERS



QUIZ MASTER MC-MHC



QUIZ WINNERS; THE NEOANTIGENS

Vaccination can be considered a training course for the immune system. Vaccination currently prevents between 2-3 million deaths each year.

The quizzers were kept on their toes by our wonderful quiz master MC-MHC and immunology post-graduate students were on hand to mark the quiz and answer any burning immunological question from the audience.

Congratulations go to Team NeoAntigens for taking out first

place. Also a special mention to team I'LL BE BACK!teria for the most creative team name.

Thank you to Medi'Ray and BioLegend for providing the prizes and ASI for supporting this event. ■

2017 GORDON ADA SENIOR AWARD WINNER

DR. CONNIE WONG, Monash University

DR CONNIE WONG,
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GORDON ADA
SENIOR AWARD

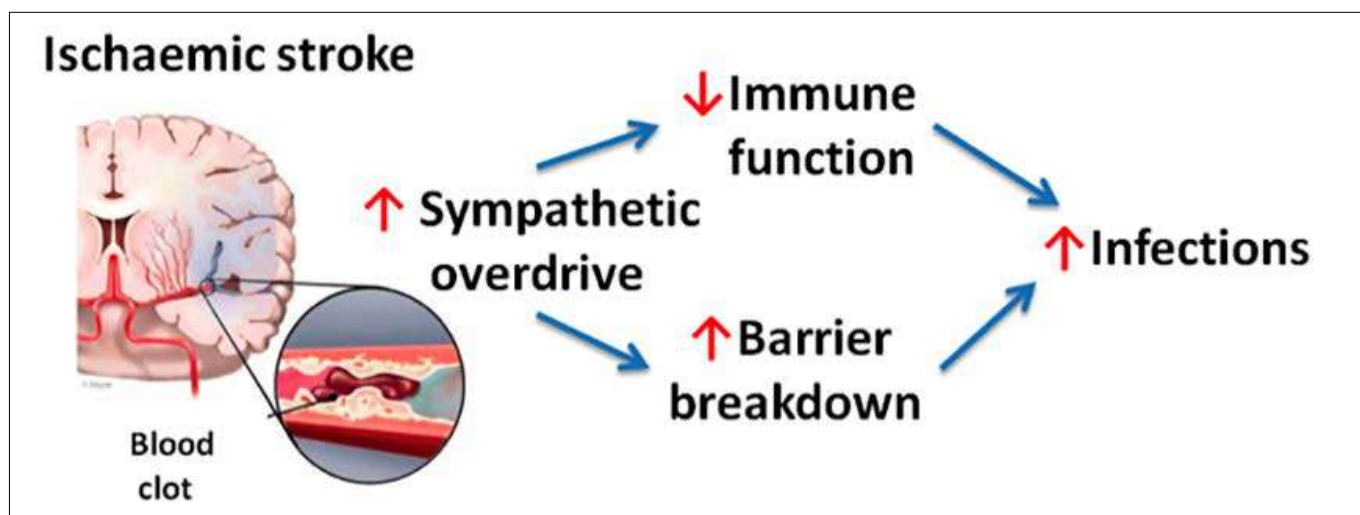


My laboratory is interested in studying the body's response to inflammation in the brain and the gut. In particular, we are interested in how our immune system responds to diseases such as stroke and colitis.

Stroke is a common and debilitating brain injury caused by the sudden interruption of blood flow to the brain. It has been recognised for many years that stroke patients are prone to infections, but very little is known about how and where these infections originate from. Traditionally, infections were assumed to

come about because of the patient's immobility and the hospital environment they are in. Research from my laboratory shows for the first time that stroke not only damages the brain, but also directly weakens the immune system and gut barrier in such a way that allow "bad" bacteria in the intestines the opportunity to translocate

and disseminate systemically to ultimately cause fatal infections. This is a significant concern given that the gut bacteria may be antibiotic-resistant and currently used anti-bacterial therapy may be ineffective or misguided. Unsurprisingly, a number of large clinical studies failed to demonstrate the efficacy of prophylactic antibiotics in the prevention of post-stroke infection. The findings of our research were published in Science and Nature



MY RESEARCH GOAL IS TO UNDERSTAND HOW STROKE TRIGGERS AN IMPAIRMENT OF THE IMMUNE SYSTEM AND BARRIER FUNCTION, CONTRIBUTING TO THE INCREASED RISK OF INFECTIONS FOLLOWING THIS ACUTE BRAIN INJURY.

Medicine. Clearly, an alternative approach is required to tackle this significant post-stroke complication. Our discovery alters accepted paradigms and provides novel therapeutic avenues to control infection after stroke via the manipulation of gut barrier integrity. Identifying a new and better-targeted approach to limit this important cause of morbidity and mortality in stroke patients will bypass the growing problem of antibiotic resistance, ultimately improving patient outcomes.

With our insight that stroke can induce intestinal barrier changes, we became intrigued by the potential contribution of complex host-pathogen interactions within the gut. In fact, it is currently unknown whether mucosal bacteria that live on and interact closely with the host intestinal epithelium (and immune cells) can regulate bacterial translocation after stroke. In our recent publication in *Scientific Reports*, we revealed that the composition of intestinal mucosal microbiota is significantly and robustly modified following the onset of stroke. Alterations in mucosal microbiota composition following stroke were found to change the predicted functional potential of the microbiota, with significant increases in pathways associated with infectious diseases, membrane transport, xenobiotic degradation, lipid metabolism and signalling. Therefore, as we start to understand the peripheral consequences of stroke, we cannot dismiss the dynamic and intricate relationship between the brain, gut barrier integrity, microbiota and host immunity.

An intriguing finding of this study supports a changing dogma that neutrophils possess important regulatory roles in inflammation.



MEMBERS OF MY LAB, THE NEUROINFLAMMATION RESEARCH GROUP, CTR FOR INFLAM DISEASE MONASH HEALTH

Indeed, emerging evidence suggests bidirectional interaction between the gut microbiota and immune system significantly influences the outcome of several inflammatory diseases. As such, there is renewed interest on the potential of altering the gut microbiota as a novel therapeutic method for various inflammatory diseases. Needless to say, colitis has been one of the most studied inflammatory diseases in relation to the gut microbiota. A gut microbiota that shapes the host immune response to promote inflammation has been found to be detrimental to disease outcome. Conversely, whether host immune cells can also control the microbiota composition and impact on subsequent leukocyte recruitment and function is currently unknown. In our recent work, we examined the contribution of invariant natural killer T (iNKT) cells in shaping the microbiota and recruitment of neutrophils in a mouse model of acute colitis. An intriguing finding of this study supports a changing dogma that neutrophils possess important regulatory roles in inflammation. In fact, we demonstrated that the lack of iNKT cells alters the gut microbiota

to create a microenvironment that is less inflammatory, while supporting the recruitment of anti-inflammatory neutrophils, which jointly protects the host from colonic inflammation. The findings of this research were published in *Frontiers in Immunology*. Future research that provides further insight into the iNKT cell-microbiota-neutrophil axis has the potential to identify novel therapeutic avenues to reduce the devastating impact of colitis. Moreover, we are currently investigating the effect of microbiota-modifying agents and diets as novel therapeutic approaches to modulate the host response in inflammatory diseases, with feasible translational relevance to clinical settings.

Finally, I would like to take this opportunity to express my gratitude to the talented and hardworking members of my lab. I work with great people who teach me new things everyday as we work towards a common goal to make a difference. Also, I have been extremely fortunate to have fantastic mentors and collaborators who I am sure are super busy but yet generously gave me their time. ■

JARED PURTON AWARD RECIPIENT 2016

SUMAIRA HASNAIN

DR. SUMAIRA
HASNAIN, JARED
PURTON 2016
RECIPIENT



I was honoured with the Jared Purton Award in 2016 by ASI. Since the start of my postdoctoral research in March 2011, I have made significant contributions to the field of immunology and published 23 manuscripts in high impact journals including Nature Medicine.

My current research is focussed on new strategies to cover treatment gaps in mucosal inflammatory and infectious diseases. My vision is to identify, characterise and manipulate the immune factors I have identified to modulate cellular stress pathways in mucosal diseases. This has led to an international patent on which I am an inventor.

In 2015, I was promoted to Career Track Fellow by my host institute (Mater Research Institute – The University of Queensland), which also coincided with my return from maternity leave. This was a critical time in my career as I was trying to establish my independent research niche and applying to gain tier-1 funding. The cash injection into the laboratory by the Jared Purton award enabled me to generate some key proof of principle data in 2016-2017. In 2017, I was awarded the Career Development Fellowship by NHMRC and promoted to group leader at my

host institute. Therefore, gaining this prestigious award has not only helped raise my national and international profile, but also directly aided my lab in generating data on a project that was previously unfunded.

My proposed research is focused on new strategies to cover treatment gaps in mucosal inflammatory and infectious diseases; with strong preliminary data, collaborations and clinical input. This has led to an international patent on which I am an inventor. My evolving position as an emerging leader was recognised by my host institute as I was promoted to Career Track Fellow, which recognises my transition to independence. This transition into a higher level of responsibility as a Career Track Fellow has also coincided with my return from maternity leave. Therefore, this is a critical time in my career as I am trying to establish my independent research niche.

I am currently applying for funding which would lead to discoveries that would be my pipeline towards future grant proposals and are a part of my long-term vision to identify, characterise and then manipulate immune driven pathologies for therapeutic use. The Jared Purton ASI award will enable me to generate some proof of principle data for my first grant application as lead investigator. In addition, I believe gaining this prestigious award would also raise my national and international profile. I would spend the prize money on reagents that are key to generating this data on a project that is currently not funded and will provide a foundation for my independent research career.

Publication of interest: Wang, R, Moniruzzaman, Md., Shuffle, E., Lourie, R., Hasnain, S Z., 2018, Immune regulation of the unfolded protein response at the mucosal barrier in viral infection, Clinical & Translational Immunology; e1014. Doi: 10.1002/cti2.1014 ■

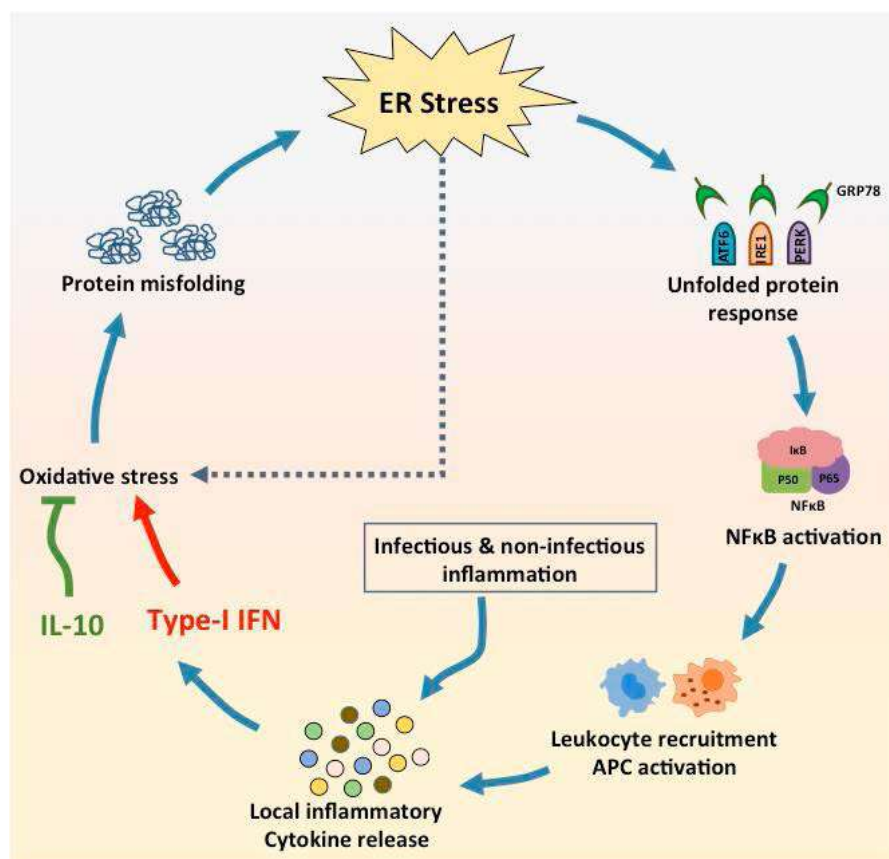


FIGURE 1
INAPPROPRIATE ACTIVATION OF STRESS CYCLE. ALTHOUGH THE PRODUCTION OF CYTOKINES SUCH AS INTERFERONS (TYPE I) IS BENEFICIAL FOR ANTI-VIRAL RESPONSES; HOWEVER, PROLONGED PRODUCTION FURTHER INDUCES PROTEIN MISFOLDING AND LEADS TO A CYCLE OF STRESS AND INFLAMMATION IN THE ABSENCE OF PATHOGENS. THESE SEQUENTIAL EVENTS DESTROY THE EPITHELIAL INTEGRITY AND LEAVE THE EPITHELIUM VULNERABLE TO OTHER CHRONIC DISEASES. THEREFORE, STRESS-REDUCING CYTOKINES SUCH AS IL-10 CAN PLAY AN IMPORTANT ROLE TO MINIMISE PROTEIN MISFOLDING AND STOP STRESS-INFLAMMATION CYCLE.

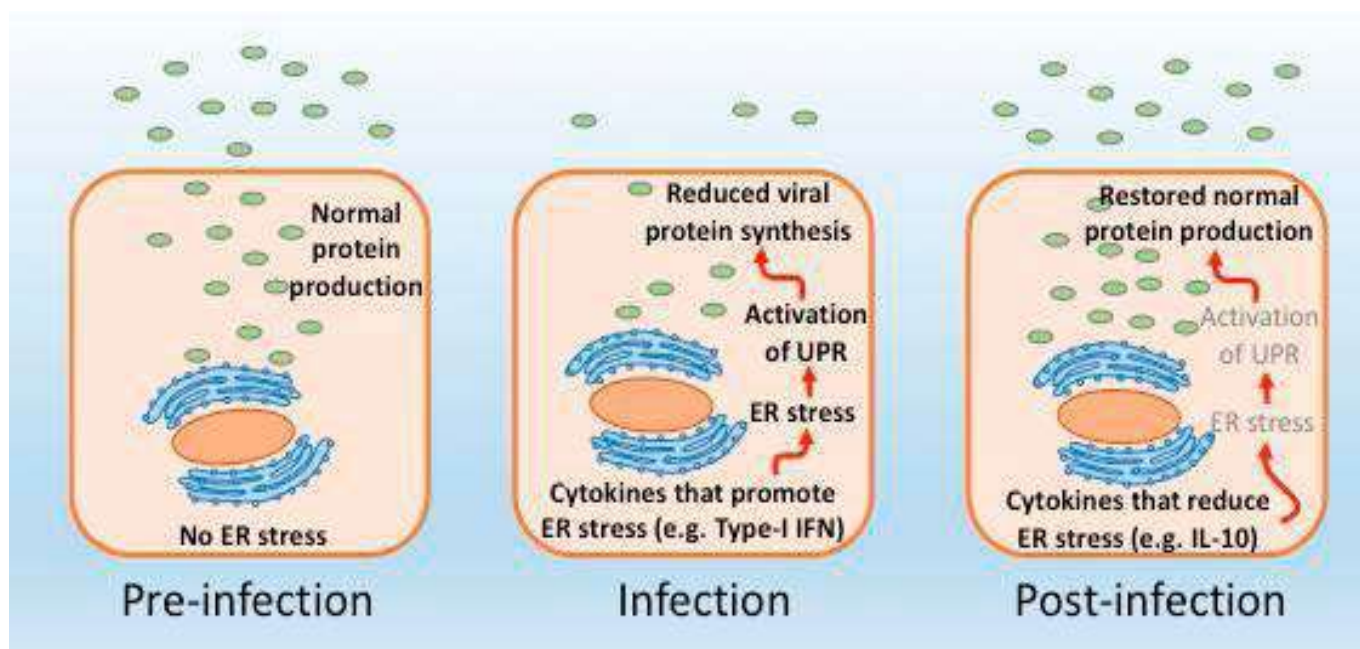


FIGURE 2
PROPOSED MECHANISM OF ANTI-VIRAL FUNCTION OF CYTOKINES. PRE-INFECTION: BASAL LEVEL OF UPR MAINTAINS THE HOMEOSTASIS OF SECRETORY CELL FUNCTION. INFECTION: HOST ER STRESS AND UPR ARE INTRINSIC MECHANISMS THAT WILL LIMIT VIRAL PROTEIN SYNTHESIS. HOWEVER, VIRUSES CAN POTENTIALLY BYPASS THESE MECHANISMS TO REPLICATE. SPECIFIC CYTOKINES (SUCH AS TYPE I IFNS) THAT INDUCE OXIDATIVE STRESS WOULD LEAD TO PROTEIN MISFOLDING WHICH WILL BE BENEFICIAL IN LIMITING VIRAL INFECTION. POST-INFECTION: FOLLOWING VIRAL CLEARANCE, THE WOUND HEALING PATHWAYS ARE ACTIVATED. SPECIFIC CYTOKINES, SUCH AS IL-10, KNOWN TO SUPPRESS UPR SIGNALS AND ER STRESS, WILL ALLOW THE RESTORATION OF NORMAL PROTEIN PRODUCTION IN THE CELLS.

UPDATE ON ASI'S VISITING SPEAKER PROGRAM

STUART MANNERING, VSP Coordinator



The following two visiting speakers will be visiting Australia and New Zealand as ASI Visiting Speakers during August and September. Please check locally for presentation venues and times.

1. Prof Arne Akbar from University College London will be visiting Australia in August 2018. Arne's trip will start in Perth, he arrives on Wednesday 15th of August. After a few days in Perth he will travel to Wellington, New Zealand where he will present at the Malaghan Institute on Tuesday 21st August. Arne will then attend the IgV winter conference in Melbourne which runs from Thursday 23rd to Friday 24th of August. After giving a seminar at Monash University he leaves Melbourne to return home on Tuesday 28th of August. Many thanks to Kylie Quinn for nominating Arne and hosting his visit.

2. Prof Uri Hershberg, from The Hebrew University of Jerusalem, will be visiting Australia in September 2018. Uri's visit will start in Perth on Tuesday September 4th. He will then visit Melbourne from Friday 7th to Wednesday 12th of September. Currently Uri is scheduled to present at WEHI on Tuesday 11th September, other presentations are being arranged. After

Melbourne, Uri will fly to Sydney where he will participate in the ACT/NSW Branches' Immunology retreat (at Kiama, NS) on September 13 and 14th. He then travels to Dunedin, NZ where

he will present at the University of Otago, before flying home on Friday 21st September. A big 'thank you' to Kim Jacobson for nominating Uri and hosting his visit. ■

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BRANCH REPORTS

NZ BRANCH REPORT

RIES LANGLEY, NZ COUNCILLOR



NZ Branch Meeting 26 - 27 August 2018

Registration and Abstract submission for

the NZ branch meeting are now open. Go to <http://www.queenstownresearchweek.org/> for more information and to register.

We will not be extending the abstract submission period. Abstracts will not be accepted after 13 July.

For those NZ Branch students, technicians, and early-career scientists who wish to be apply for travel bursaries, the deadline for abstract submission is 3 July. To be eligible you must submit an abstract by this date and be a current ASI member.

Our International invited Speakers are:

- Professor Cath Bollard, Director of the Center for Cancer & Immunology at the Children's National Health System in Washington DC. T cell therapy for cancer and chronic virus infections.
- Professor Peng Li, Principal Investigator at the Chinese Academy of Sciences' Guangzhou Institute of Biomedicine & Health, and Director of Wellington Zhaotai Therapies Ltd. CAR-T cell

therapy for cancer.

- Dr Yury Goltsev, Research Scientist, Department of Microbiology & Immunology, Stanford University School of Medicine. Advanced tools for multi-parametric cell analysis.
- Dr Alexandra Corbett, Senior Research Officer, Doherty Institute, University of Melbourne. Functions of MAIT cells during bacterial infection.

This years Watson Orator is Professor Frank Griffin, from the Department of Microbiology & Immunology, and Director of Ag@Otago, at the University of Otago.

Our Social Function will be on the evening of 26th August at Public Kitchen and Bar. The Public Kitchen and Bar is the closest restaurant to the lake and offers exceptional local cuisine made from local produce caught in the hills, farmed down the road, or caught off the coast. Tickets are only \$25 for members.

Queenstown Research Week is New Zealand's biggest annual scientific gathering and is held in an incredible winter location. <http://www.queenstownresearchweek.org/asiqmb-immunology/>

The ASI-NZ 2018 Organising Committee are Rod Dunbar and Ros Kemp (co-chairs), Anna

For those NZ Branch students, technicians, and early-career scientists who wish to be apply for travel bursaries, the deadline for abstract submission is 3 July.

Brooks, Margaret Currie, Ian Hermans, Sarah Hook, Fiona Radcliff, and Ries Langley.

As usual, we will hold our AGM during the branch meeting. If you have any agenda items please send them to me prior to the meeting.

Visiting Speakers

Prof Diane Mathis (Wellington) and Dr Alan Sher (Dunedin, Wellington) had successful visits to New Zealand in March. Prof Arne Akbar is confirmed to visit Wellington in August and will speak at the Malaghan Institute on 21 August. Prof Uri Hershberg will visit Otago in September while Prof Joel Ernst will visit in October.

All ASI-NZ Branch student, postdoc, and technician members are eligible for travel assistance to participate in VSP events. If you are interested in attending a VSP event in another NZ centre, please provide me with a short justification for the travel (why you want to go and what it would mean for your research). ■

VIC/TAS BRANCH REPORT

**SCOTT MUELLER,
VIC/TAS COUNCILLOR**



This year around Victoria we had an exciting line-up of Day of Immunology events that show just how important

this event is for engaging the public with immunology and research. The public lecture on Immunotherapy featured Professor Robyn O'Hehir, Monash University, Professor Tom Kay, St Vincent's Institute of Medical Research, Doctor Shahneen Sandhu, Peter MacCallum Cancer Centre, and was chaired by Edwin Hawkins, WEHI. The Vaccination Cafe was once again held at the Melbourne town hall, and in light of this year's demand for Flu shots, it was well utilised by people getting in early! Discovery tours were held at 9 sites across Melbourne and Secondary School Workshops were held at GTAC, Federation University Ballarat and Berwick. Jomar also organised a Flash Mob to support the DoI events (#immunomob on Twitter). By all accounts, this year's DoI was a resounding success!

We have an exciting second half of the year shaping up for IgV events, following on from a number of great ASI visiting speakers at the start of the year. First up, on Friday June 22nd, the 2018 IgV Mid-winter Seminar will be held at the Leveson Hotel and will feature Dr Kate Schroder (University of Queensland) with sponsorship generously provided by Miltenyi.

Planning for the 2018 IgV Annual meeting (August 23-24) is well underway. This year we have an exciting new venue, the Mansion Werribee (www.igv2018.com).



VSP SPEAKERS DINNER

The venue, which is right next to the Werribee zoo, looks excellent and is readily accessible from Melbourne. We have a fantastic line-up invited speakers includes international speakers Andrea Ablasser (Ecole Polytechnique Fédérale de Lausanne), Arne Akbar (University College London) and Laiguan Ng (A*STAR) and national speakers Liz Hartland, Kanta Subbarao, Andrew Currie, Nicola Harris and Si Ming Man. There will be ample opportunities for talks and posters for registrants.

The IgV Masterclass will take place this year at the PDI on Friday 26th of October and will focus on Systems and Quantitative Immunology. Topics will include transcriptomics, genomics, proteomics, single cell analysis (including CyTOF, scRNAseq) and image quantitation. Speakers include Helen McGuire (Centenary), Matt Dixon

(Unimelb), Nathan Croft (Monash), Steve Turner (Monash), Joseph Rosenbluh (Hudson), Kaylene Simpson (VCCC) and Daniela Zalcenstein (WEHI). This event is growing each year and we expect it to be an engaging and informative day.

2018 sees a very busy year for ASI visiting speakers and lots of great talks for local members. Our first VSP for 2018 was Dr Clare Bryant (Cambridge University) who gave a seminar on Feb 12th at the Hudson Institute and at WEHI on Feb 13th and then at the Lorne Infection and Immunity conference (Feb 14-16). Professor Diane Mathis visited on March 20th, along with Prof. Christophe Benoist (both from the Department of Microbiology and Immunology, Harvard Medical School, USA) and presented at the half-day symposium on Immune Reactivity and Tolerance on March 20th at WEHI (organised by Daniel Gray). The event was a resounding success and Profs. Mathis and Benoist then headed off to Thymoz on Heron Island. Our third VSP for 2018 was Dr Alan Sher from the NIH. Alan graced ASI members with 3 seminars,

We have an exciting second half of the year shaping up for IgV events, following on from a number of great ASI visiting speakers at the start of the year.

the first at the University of Tasmania on March 22nd (hosted by A/Prof Guna Karupiah). Alan then spoke at the Peter Doherty Institute on March 23rd (hosted by Siddhartha Mahanty and Kanta Subbarao, PDI) and then at the Hudson Institute (hosted by Ashley Mansell) on March 26th. Alan praised the quality of our VSP scheme and encouraged us to keep it up!

The IgV committee bids farewell to Seth Masters and thanks him for his contributions.

We are also looking forward to a number of exciting upcoming VSPs, including Prof. Arne Akbar (hosted by Kylie Quinn, Monash) who will present at Monash University as well as the IgV Annual Meeting on August 23-24th. More VSPs on the way include Prof. Uri Hershberg (Drexel University) in September hosted by Kim Jacobson, Prof. Joel Ernst (New York University), Prof. Donna Farber (Columbia University) in August/September, hosted by David Tarlinton, Prof. Bob Seder (NIH) and Prof. Paul Kubes (University of Calgary).

Stay tuned for more information about these VSP events and other events throughout the year. Keep up to date with us on Facebook (www.facebook.com/immunologygroupofvictoria) and Twitter (@ImmunoGroupVic).

Finally, the IgV committee bids farewell to Seth Masters and thanks him for his contributions, while we welcome Nick Huntington (WEHI) and two new student members to the committee: Rosemary Millen (VCCC) and Marios Koutsakos (PDI). ■

SA/NT BRANCH REPORT

IAIN COMERFORD, SA/NT COUNCILLOR

SA/NT ASI Prizes for Immunology

- The 'Immunology Prize' (\$250) at the University of Adelaide awarded to the top undergraduate immunology student. The 2018 winner is Madelaine Massy-Westropp.
- The inaugural Flinders University undergraduate immunology prize (\$250) was won by Aiden Norbury.

Congratulations to Madeleine & Aiden!

Adelaide Immunology Retreat 2018

Our next big ASI event for SA/NT will be the 14th Annual Adelaide Immunology Retreat (AIR-14) at the McCracken Country Club in Victor Harbour. Planning for the Retreat is well underway and we are delighted that Dr Scott Mueller (Doherty Institute) will be joining us as our invited Interstate Speaker and Dr Gabriela Minigo (Menzies Institute) will be our 'local' speaker from within the branch.

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UA IMMUNOLOGY PRIZE WINNER
MADELEINE MASSY-WESTROPP



FLINDERS UNI IMMUNOLOGY PRIZE WINNER, AIDEN NORBURY

The retreat, which is aimed at giving Early Career Researchers (ECRs), PhD students, Honours students and Research Assistants the opportunity to present their work and interact in a relaxed environment

The retreat, which is aimed at giving Early Career Researchers (ECRs), PhD students, Honours students and Research Assistants the opportunity to present their work and interact in a relaxed environment, will be held from the 10th-11th August. A call for abstracts will be sent out by email to all SA/NT ASI members in June. Please support this event if you are a supervisor by encouraging your students and staff to attend as it is a great opportunity for them to give an oral presentation to their peers in a relaxed environment. Another incentive is that there are prizes for the Best Presentations. For queries or more information, I can be contacted by email at iain.comerford@adelaide.edu.au. We look forward to seeing you there! ■

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WA BRANCH REPORT

CONNIE JACKAMAN, WA COUNCILLOR



Day of Immunology activities, held on 28th April

Afternoon of Immunology

Public Symposium, Harry Perkins Institute for Medical Research, 28th April

As part of Day of Immunology, the ASI WA student committee (Amy Prosser, Laura Brookes, Niamh Troy, Caitlyn Tilsed, Wayne Aston and Lelinh Duong) organised an afternoon of Immunology Public Symposium on 28th April held at the Harry Perkins Institute of Medical Research. This event proved to be very popular, attracting over 60 registrants. The program included talks from keynote speakers Michaela Lucas (PathWest) who spoke about Allergy, Claire Sharp (Murdoch University) on Veterinary Immunology, Phil Stumbles (Murdoch University) on Asthma and Joost Lesterhuis and Jonathan Chee (University of Western Australia) on Cancer Immunology. Other highlights of the day included presentations by WA's talented postgraduate students, followed by a sundowner and lab tours to finish off an exciting day of immunology.

Staff and students at CHIRI were invited to bring along their best immunology-themed morning tea and more than a dozen creative cakes, biscuits and savoury dips were supplied. The best examples included a red blood cell cake, neutrophil extracellular traps cake and immune cell cupcakes.

Morning tea hosted at Curtin Health Innovation Research Institute (CHIRI), 28th April

Staff and students at CHIRI were invited to bring along their best immunology-themed morning tea and more than a dozen creative cakes, biscuits and savoury dips were supplied. The best examples included a red blood cell cake, neutrophil extracellular traps cake and immune cell cupcakes. Everyone was very enthusiastic and supportive of the entries! It was a great way to celebrate the International Day of Immunology and to bring staff and students together at CHIRI.

National visiting speaker: Susanne Heinzl, 1st - 2nd June

ASI President and national visiting speaker, Su Heinzl, visited recently hosted by Michaela Lucas and Connie Jackaman. Su gave a seminar at the Harry Perkins Institute for Medical Research, Friday 1st June followed by a presentation Saturday 2nd June at the Australasian Society of Clinical Immunology and Allergy (ASCIA), WA Immunology Day at the Perth Zoo. Su's seminars were incredibly well received, and Su's presentation on Friday was a record attendance with standing room only at the Perkins seminar room! This also was a great opportunity to develop stronger ties between ASI and ASCIA. Su also managed to squeeze in a visit to the Pan Pacific conference site (and importantly the dinner venue on the river) for the upcoming ASI2018, to be held at Pan Pacific Perth, 2nd-6th December 2018.

Su's seminars were incredibly well received, and Su's presentation on Friday was a record attendance with standing room only at the Perkins seminar room!

SAVE THE DATES!

Upcoming events

We have two international visiting speakers coming through the ASI international speaker program:-

- Arne Akbar, University College London, T cell Immunity and Ageing
Wednesday 15th August to Saturday 18th August
- Uri Hershberg, Drexel University, Systems Immunology
September (dates TBC)

Both of the speakers will present a branch seminar and will be available to meet with local groups. Further details for their seminars/visits are to come and if you would like to schedule a meeting with either please let us know.

- 47th ASI annual scientific meeting will be held 2nd-6th December 2018, Pan Pacific Perth. ■

NSW BRANCH REPORT

HELEN MCGUIRE, NSW COUNCILLOR



The first half of 2018 saw a flurry of immunology events in NSW!

Events in NSW started with Prof

Alan Sher from NIH coming to Sydney on the ASI Visiting Speakers Program. Hosted by Prof Carl Feng at the Charles Perkins Centre, the University of Sydney, Alan gave a captivating seminar covering many vast aspects of his esteemed career. Alan was very generous with his time and spent two days meeting with our local immunology community, and this included a wonderful mentoring lunch with our students and ECRs.

NSW went large with our efforts to celebrate Day of Immunology, and it paid off with some wonderfully successful events! Please check out the event reports written to cover each of the three participating partners, written by our brilliant ASI members who helped out with organising each celebration.

The UNSW Museum of Human Disease, covering school holidays activities and our 'Facetime an Immunologist' event, with report by our Dol coordinator Dr Fabio Luciani

The Garvan Institute of Medical Research, with report contributed by our fantastic Discovery tour coordinators Dr Joanne Reed and Dr Angelica Lau

Our immensely successful Public Forum hosted by the Charles Perkins Centre, the University of Sydney, with reports by our immunology student poster prize-winners Caroline Ashley and Tessa Campbell.



POSTGRAD AND ECR LUNCH WITH PROF ALAN SHER

We anticipate the following Visiting Speakers Program invitees to travel our way- Donna Farber to be hosted by Garvan in August, Uri Hershberg joining our branch meeting in September, and Joel Ernst in October, with venue to be decided.

And pleased to report the following exciting ASI events in NSW still yet to come for 2018;

We anticipate the following Visiting Speakers Program invitees to travel our way- Donna Farber to be hosted by Garvan in August, Uri Hershberg joining our branch meeting in September, and Joel Ernst in October, with venue to be decided.

And of course our much anticipated NSW/ACT branch meeting hosted at Sebel Harbourside, Kiama on the 13th and 14th September. Stay

tuned for registration details via email! It promises to be a great program, particularly from our students to showcase their hard work. We've also lined up some great keynote speakers which include the nationally renown Prof Mariapia Degli-Esposti (Lions Eye Institute, The University of Western Australia), Prof Barbara Fazekas de St Groth (The University of Sydney), Prof Emad El Omar (UNSW), Dr Pablo Silveira (ANZAC Institute), and internationally Prof Uri Hershberg (Drexel University, Philadelphia, PA, USA).

Please feel free to contact me if you would like to get more information or make any suggestions for upcoming events (helen.mcguire@sydney.edu.au). I'm always keen to hear the thoughts of ASI members. ■

QLD BRANCH REPORT

SUMAIRA HASNAIN, QLD COUNCILLOR



ASI-QLD has had a very exciting start to the year! With a lot of different events taking place. If you are interested

in getting involved in the activities supported by ASI-QLD please email Sumaira.hasnain@mater.uq.edu.au

Brisbane Immunology Group Meeting

Organising Committee: Sumaira Hasnain, Rajiv Khanna, Matt Sweet, Ray Steptoe

ASI-QLD is planning to support travel bursaries for applicants from North QLD to be able to attend the meeting – keep an eye out for the call out!

ASI-QLD is very excited to announce the opening of registrations for the Brisbane Immunology Group Meeting to be held at Gold Coast SeaWorld Resort in September! Register now and submit your abstracts.

There will be a prize for the best poster and best talk (PhD session), sponsored by ASI-QLD (\$250 each).

ASI-QLD is planning to support travel bursaries for applicants from North QLD to be able to attend the meeting – keep an eye out for the call out!

Jonathon Sprent Orator:
Professor Gabrielle Belz

Confirmed Plenary Speakers:

- Dr Laura Mackay, Peter Doherty Institute for Infection and Immunity

- Associate Professor Shane Grey, Garvan Institute of Medical Research
- Associate Professor Seth Masters, Walter and Eliza Hall Institute of Medical Research

Visiting Speaker Program

Prof. Clare Bryant (University of Cambridge) - Feb 2018 (hosted by Prof. Matt Sweet, IMB-UQ)

Prof. Alan Sher (NIH Distinguished Investigator, USA) – March 2018 (hosted by Prof. Christian Engwerda, QIMR)

ASI-QLD had the privilege of hosting two prominent international researchers earlier this year. I would like to thank Prof. Matt Sweet and Prof. Christian Engwerda for hosting the speakers and making the visiting speakers trip a huge success. ■

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GROUP

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SYDNEY SCHOOL OF VETERINARY SCIENCE, UNIVERSITY OF SYDNEY

Mindfulness in Brisbane

I was honoured to be one of the four recipients of the inaugural ASI Women Initiative Award. The award allowed my family to join me for the recent ASI annual meeting at Brisbane and therefore, unable me to be there for the full time and without the need to attend daily family issues from distance. The 2017 annual ASI meeting was extremely well organised with impressive attendance, an astonishing array of talks by top international and national immunologists and well received workshops and events. Considering that this meeting followed the successful ICI2016 international conference of the preceding year, this was a great achievement.

Proudly, the Sydney University Veterinary Science was well represented in the meeting as the head and tail excellent presentations were given by two veterinarians who graduated there. They inspired the audience, talking about where good start, good mentors and tolerance

would lead you to [Doctor Graham Mitchell (Foundation Lecture) and Professor Chris Goodnow (Presidents Lecture)]. As always, any early-career, mid-career or senior researchers in the auditorium felt modest and envy when listening to the quality research presented during

The 2017 annual ASI meeting was extremely well organised with impressive attendance, an astonishing array of talks by top international and national immunologists and well received workshops and events.



HIGHLIGHTS OF ASI BRISBANE FOR MY FAMILY AND I, SUPPORTED BY ASI WOMEN'S INITIATIVE.

the New Investigator Award Session. Two of my favourite presentations in the conference were relevant to my own research interests: Dr Cindy Ma described monogenetic variants of cytokine receptor genes in human immunodeficiencies [Lymphocyte Differentiation, Activation and Memory Symposium II]; Professor Sarah Robertson demonstrated the crucial role of microRNA regulation of T cell tolerance in pregnancy [Plenary IV], expanding the knowledge on microRNA-cytokines interactions in reproductive related tissues such as seminal fluids and reveal their contributions to conception rates and fertility. Social highlights included the well-attended and utterly funny Lafferty Debate, which stimulated a line-up of microbiome-related limericks in the Conference Dinner...

The attention, discussions and questions I received during the poster session would contribute to the next stages of research conducted in my lab, investigating the role of cytokine receptor gene variants associated with canine immune-related diseases. Additionally, several discussions and talks during the conference have emphasized the promise and applicability of comparative immunology and (non-mice) animal models to human diseases. We are currently exploring the interest amongst the ASI members in establishing a (non-human/non-mice) Comparative Immunology Workshop/SIG (please contact hamutal.mazrier@sydney.edu.au for more details).

I sincerely thank the Australasian Society for immunology organisation for the opportunity to mindfully be there and discuss immunology throughout the full superb meeting! ■

DR. CINDY MA

GARVAN INSTITUTE OF MEDICAL RESEARCH, SYDNEY

In recognition that attendance to the ASI annual meeting may require care-givers to be away from their home base and thus need alternative arrangements for carer responsibilities, the ASI Women's Initiative offered 4 travel awards (of up to \$750) to support their female members attending the 46th Annual Scientific Meeting held in Brisbane (27th November – 1st December 2017). The funds could be used in whatever way that best suited the recipient's personal circumstances, for example additional childcare days while the recipient attended the conference, child-minding at the conference, or to fund a companion to come to Brisbane to take on carer responsibilities while the recipient attended the conference. For me, these awards could not have come at a better time and were vital to my ability to attend the annual meeting. I had the privilege of being an invited speaker to the meeting, but at the time of accepting the invitation I knew I would most likely still be on maternity leave and primary carer for a less than 6-month-old baby who was still being nursed. The award made it possible for my husband to accompany me to Brisbane and act as primary carer for both our children while I attended the conference. This arrangement worked extremely well for us as there were plenty of kid-friendly activities close to the conference venue, the Brisbane Convention and Exhibition Centre, to keep my 4 year old occupied, and I was able to utilise the parenting facilities at the Convention Centre.

The 2017 ASI Annual Scientific Meeting in Brisbane definitely lived up to the high precedent



DURING ASI 2017 ASI POSTER SESSION
ALONG WITH MY TWO YOUNG CHILDREN.

set by previous ASI meetings and on the back of the International Congress of Immunology that was held in Melbourne the previous year. It had a stellar scientific program with an excellent line-up of national and international invited speakers. A definite highlight for myself was the honour of presenting my research to so many of my peers, which I consider to be a much tougher audience than any other world-stage. Outside of the scientific program, I was able to meet with numerous collaborators, including Jean-Laurent Casanova who was one of the international invited plenary speakers. I was also able to catch up with peers, many of whom I also consider to be close friends. I would also like to take this opportunity to commend the ASI Women's Initiative Councillor, Dr Vanessa Bryant and the society for putting these measures in place in support of their female immunologists. ■

TRAVEL REPORTS

5TH ANNUAL MEETING OF THE INTERNATIONAL CYTOKINE AND INTERFERON SOCIETY

29 October – 2 November 2017, Kanazawa, Japan

LE SON TRAN, Hudson Institute of Medical Research, Centre of Innate Immunity and Infectious Disease.

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Travel Report I was very grateful to receive an ASI International Travel Award which allowed me to attend the 2017 Cytokine Conference organised by The International Cytokine and Interferon Society (ICIS) in Kanazawa (Japan) in October.

This year's conference program was excellent and encompassed all aspects of innate and adaptive immunity in various disease settings. Every presentation seemed so intriguing and it was so hard for me to decide which symposium/workshop I would attend each day. Of particular interest to me was the talk given by Professor Richard Flavell who was the first to elucidate the role of the Nod-like receptor families (NLRs) in innate immune responses. He nicely described how the newly identified NLR receptor NLRP9b promotes protective host defence against an enteric virus infection by activating Gasdermin-D dependent cell death pathway. My current study demonstrated the importance of another NLR receptor member, NOD1, in sensing of *H. pylori* infection, therefore his exciting talk prompted me to think about some potential questions for my future research: 1) Could NOD1 also engage similar downstream mechanisms to cleave Gasdermin

D, thereby modulating host gastric cell survival responses; 2) whether targeting this signalling pathway could activate host mucosal immunity to promote bacterial clearance?

There was also a burst of interest in a new and fascinating field, immunometabolism. The plenary speaker, Professor Luke O'Neill, and other speakers inclusively highlighted that metabolic pathways and metabolites not only provide energy and substrates for growth and survival, but also instruct effector functions, differentiation, and gene expression of innate immune cells. These interesting presentations drew my interest to this field, especially, as a microbiologist, I would be interested in investigating the biological effects of changes in metabolic profiles during host-pathogen interactions in antimicrobial responses.

In addition, I attended some other sessions which enabled me to stay abreast of advanced technology platforms that are quite useful for my research. Of these, I was inspired by many talks and posters related to the CAR-T cell therapy, a rapidly emerging immunotherapy approach recently approved by FDA. I have learnt a lot by simply having a chat with speakers after the session. In addition, I



DELICIOUS FOOD AT THE CONFERENCE BANQUET DINNER

was also intrigued by several advance technologies introduced at this conference such as single cell analysis. This technology is believed to pave the way for the development of precision therapies.

The poster session played an important role as an excellent forum to network with scientists in my field. It was also a great honour for me to present my unpublished work at this session. My poster entitled "NOD1 sensing of *H. pylori* mediates IL-18 processing to maintain gastric homeostasis" received some constructive feedback on my results and

insightful suggestions as to future work from numerous distinguished international scientists. These interactive and informal conversations allowed me to make some fruitful connections with delegates who I had only known through reading their publications. I also mingled and viewed other posters which focused on emerging IL-1 cytokine family members, such as IL-33 and IL-36. Their findings on the role and regulation of these cytokines at mucosal sites were quite relevant to my current work and provided inspiration for my future research.

The venue and food catering was very impressive, which held people together and encouraged network chances. I had a great time catching up with my former colleagues during lunch, coffee breaks and banquet dinner served with plenty of delicious Japanese seafood.

In addition to attending the conference, I took advantage of this opportunity to visit two laboratories in Osaka and Tokyo. My first lab visit was to the laboratory of Professor Koichi Fukase in Osaka University. His lab has extensive experience in characterizing and synthesizing NOD1 ligands which are particularly useful for my current work. After giving a 20-minute presentation, I received a lot of intriguing questions which I had never been asked before and invaluable feedback on my methods and results from biochemists in his department. Following my talk, we had an in-depth discussion to set up a cross-disciplinary collaboration which will exploit the existing complementary resources and expertise between two research groups working towards understanding the functionality of NOD signaling pathways and how to modulate this pathway in vivo using synthetic ligands. We expect



JAPANESE TRADITIONAL DANCE AT THE CONFERENCE BANQUET DINNER

that this unique collaboration would generate data for a collaborative publication and for future grant applications. On top of that, I was really delighted to take a ride on one of the fastest trains in the world, the Japanese bullet train (Shinkansen), to travel to Tokyo where I visited the laboratory of Professor Masanori Hatakeyama, a world leader in *H. pylori* research. The key outcome of this visit was that I received critical inputs from experts in my field for my manuscript which I have recently submitted for publication. I also received a lot of helpful advice from his laboratory staff to troubleshoot our technical issues with detecting *H. pylori* virulence factors.

Overall, attending this conference and visiting labs in Japan were definitely one of my highlights for the year. This was a fantastic opportunity for me, as a young scientist, to keep up-to-date with most recent findings of cutting-edge research in the field, develop new perspectives for my research and establish fruitful collaboration with international researchers. Last but not least, I

would like to thank ASI and The CASS Foundation for sponsoring me to attend the conference and visit collaborators' laboratories. Particularly, I truly appreciated that ASI has continuously offered me so many opportunities to attend international conferences for over the past seven years. I always share my great experiences as a member of the Society with students and postdoc colleagues at my institution and encourage them to sign up for ASI membership. ■



MY LAB VISIT AT THE UNIVERSITY OF OSAKA

19TH INTERNATIONAL CONFERENCE ON LYMPHATIC TISSUES AND GERMINAL CENTRES IN IMMUNE REACTIONS

San Servolo Island, Venice, Italy

ILENIA PAPA, Australian National University

In September this year I had the great privilege to attend the 19th International Conference on Lymphatic Tissues and Germinal Centres in Immune Reactions, better known as The Germinal Centre Conference (GCC).

The Conference is held every three years, and this year it was hosted by The IFOM in San Servolo Island, Venice (Italy). In other words ... we were trapped for three days on a tiny little island with more than 150 GC experts from around the world. A great experience for some, the worse nightmare for others! Just kidding, it was a valuable time and generally speaking everyone got a lot out of it.

This year the meeting was also celebrating the 50th anniversary of this series of international conferences focused on the understanding of the basic mechanisms underlying the function of the adaptive immune system in health and disease. Marie Kosco-Vilbois opened the conference on behalf of Frans

The talk was really interesting and provided an overview of all discoveries made during this 50 years and which provided the basis of our understanding of the germinal centre responses.



19TH GCC GROUP PHOTO: ALL CONFERENCE PARTICIPANTS. SAN SERVULO PIER. TAKEN BY THE OFFICIAL PHOTOGRAPHER.



19TH GCC STUDENTS: FROM THE LEFT, CRISTIAN BECCARIA, ILENIA PAPA, IMOGEN MORAN, ELENA MERINO, FLORIANA CREMASCO, FAITH UWADIAE AND INKEN KELCH. BURANO, VENICE. TAKEN BY CRISTIAN BECCARIA.

Kroese, who had historically made significant contributions to the field and who unfortunately could not attend the meeting. The talk was really interesting and provided an overview of all discoveries made during this 50 years and which provided the basis of our understanding of the germinal centre responses.

All sessions were well attended throughout the whole meeting and packed with high quality talks across ten excellent sessions, which were accompanied by two poster sessions. Overall the conference addressed several topics related to the identification and functional dissection of novel molecular pathway controlling the dynamics of B and T cells within germinal centre, B cell selection and differentiation into memory and plasma cells.

There was a discrete but important Australasian presence in attendance at the meeting with talks from David Tarlinton, Carola Vinuesa, Kim Good-Jacobson, Di Yu, Imogen Moran and Inken Kelch presenting their outstanding work on germinal centre immunology happening at the moment in Australia and New Zealand. There were also several excellent opportunities for the younger conference attendees to present their work and I was also fortunate enough to present my work on the role of dopamine in human germinal centre responses in the third session of the first day. I was quite nervous and excited at the same time to share my work with that audience full of very smart people.

In addition to the science we had a fun boat excursion and visited two other islands in the Venetian Lagoon. We went to Murano, renowned for its long tradition of



19TH GCC STROLLING AROUND BURANO. PHOTO TAKEN BY INKEN KELCH.

Overall this conference provided a unique opportunity for networking and gaining invaluable feedback. I'm really looking forward to the next meeting in Israel in three years.

glass making, where we visited one of the glass factories and watched a demonstration of the glass blowing and glass sculpture techniques. Second stop was the picturesque island of Burano,

well known for its brightly painted fisherman's houses and for the handmade Burano lace. We had a nice time strolling through the island's labyrinth made of narrow streets and lots of bridges and a quick stop to cheer with a glass of Spritz.

Overall this conference provided a unique opportunity for networking and gaining invaluable feedback. I'm really looking forward to the next meeting in Israel in three years.

Finally, I would like to thank the Australasian Society of Immunology for supporting this travel, and allowing me to attend this conference and meet great scientists and maybe my future post-doc supervisor. ■

THE 42ND ANNUAL INTERNATIONAL HERPESVIRUS WORKSHOP 29 July – 2 August, 2017 (Ghent, Belgium)

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BEAUTIFUL GHENT IN SUMMER- A MORE PICTURESQUE LOCATION THAN MY LAST IHW IN BOISE, IDAHO



AUSTRALIAN IMMUNOLOGY-VIROLOGISTS ENJOYING THE CONFERENCE BEER. L-R: TESSA CAMPBELL (USYD), DAVID TSCHARKE (JCSMR, ANU), JARROD KENNEDY (USYD), THILAGA VELUSAMY (JCSMR, ANU), MEGAN STEAIN (USYD)

I count myself extremely fortunate to have been awarded an ASI Postgraduate International Travel Award last year. Going against the norm, I attended the International Herpesvirus Workshop (IHW) in July/August 2017, staged against the beautiful backdrop of Ghent, Belgium. This annual meeting presents the best opportunity for herpesvirology researchers to come together, covering a wide scope of science from hard-core virology to viral-host interactions in pathogenesis and immune cell dynamics. I was particularly eager to learn about current research on the multitudes of NK cell evasion strategies employed by cytomegalovirus, as well as recent therapy developments using herpesviruses as vaccine vectors for cancer and chronic pain. I did my best at the meeting to help bring the immunology (and excessive flow plots), presenting my work on the inhibition of NK cell function by varicella zoster virus (VZV) and herpes simplex virus. I was delighted to give an oral presentation in the VZV workshop, and as is tradition at IHW, I additionally presented an accompanying poster, allowing further opportunity for discussion.

Speaking of tradition, IHW is a meeting with many unique customs that make for a fantastic conference experience. The attendees were treated to a night of music and dancing by the Herpetic Legion – a band of virology professors that each year ‘reactivate’ to perform at the meeting. And rather than



ENJOYING THE OLD CITY OF GHENT AFTER ANOTHER PACKED DAY OF SCIENCE

a conference-sponsored bag, the organisers kept true to Belgium and had a custom beer produced by a group of savvy PhD students. To everyone's amusement the delicious brew was named 'Acyclobeer' and marketed as an alternative therapy to acyclovir for herpesvirologists!

But putting the fun to the side, the IHW conference was an excellent opportunity for me as a finishing PhD student to receive feedback on my research before returning home to write up manuscripts and my thesis. I was thrilled to meet leading researchers like Stipan Jonjić (University of Rijeka), as well as cement my connections and networks within the herpesvirus field as I begin to transition further into immunology during my postdoc. To this end, ASI's funding made it possible for me to use the trip to also visit labs across Europe to scope out possible postdoc opportunities.

While travelling, I organised to visit several labs in line with my interests in NK cell immunology: Christian Münz at the University

of Zürich, Yen-an Bryceson at the Karolinska Institute, Dan Davis at the University of Manchester, and Gillian Griffith's group at the Cambridge Institute for Medical Research. Visiting these labs was a valuable opportunity to meet with other researchers, present my data and receive constructive feedback, as well as hear about the fascinating work these groups are undertaking.

I am very grateful to all these people for the time they made to welcome me into their labs and talk science. I was also able to catch up with Benedict Chambers (Karolinska) who supervised me during an undergraduate exchange project many years ago. In an amazing stroke of coincidence, our paper* on that work was accepted for publication on the day I flew into Stockholm, giving us the chance to celebrate when I visited!

I was fortunate to additionally receive funding from The University of Sydney (through the Daphne Goulston Scholarship and the Postgraduate Research Support Scheme), which helped allay the cost of attending the

conference. While there are many sources to apply for conference support, it is much harder to find funding to visit international labs when considering postdoc opportunities. I am therefore incredibly grateful to ASI for its support, without which I would not have been able to visit so many labs across Europe, informing my future postdoctoral research. I am honoured to have received the Postgraduate International Travel Award, and I hope to continue representing ASI as I move into the international immunology sphere in the next stage of my career.

* Afifa M Sultana, Ann Du, Berit Carow, Catrine M Angbjär, Jessica M Weidner, Sachie Kanatani, Jonas M Fuks, Tamara De Koning, Jaime James, Imogen O Mansfield, Tessa M Campbell, Lifeng Liu, Nadir Kadri, Henrik Lambert, Antonio Barragan, Benedict J Chambers (2017). Down-modulation of effector functions in NK cells upon T. gondii infection. *Infection and Immunity* 85 (10): e00069-17. ■



CATCHING UP AND CELEBRATING WITH MY FORMER PROJECT SUPERVISOR, BENEDICT CHAMBERS (KAROLINSKA INSTITUTET)

PUBLICATIONS OF INTEREST

OUR SUSTAINING MEMBERS



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Meng Michelle Xu et al., 2017 Aug 15

[Dendritic Cells but Not Macrophages Sense Tumor Mitochondrial DNA for Cross-priming through Signal Regulatory Protein \$\alpha\$ Signaling,](#)

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[EasySep™ Human CD34 Positive Selection Kit \(Cat# 18056\)](#)

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Xianfang Wu et al., 2017 Dec 4

[Intrinsic Immunity Shapes Viral Resistance of Stem Cells](#)

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Human Recombinant Protein

Recombinant protein of human Ewing sarcoma breakpoint region 1 (EWSR1), transcript variant EWS https://www.origene.com/catalog/proteins/recombinant-proteins/tp303709/ewsr1-nm_005243-human-recombinant-protein

Gorthi, A. et al, 2018

EWS-FLI1 increases transcription to cause R-loops and block BRCA1 repair in Ewing sarcoma

Nature

Doi: 10.1038/nature25748

Lenti-shRNA

Slc1a5 - Mouse, 4 unique 29mer shRNA constructs in lentiviral GFP vector <https://www.origene.com/catalog/rnai/shrna-plasmids/tl516694/slc1a5-mouse-shrna-plasmid-locus-id-20514>

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ABOUT THE

AUSTRALASIAN SOCIETY FOR IMMUNOLOGY



The aim of the ASI is to encourage and support the discipline of immunology in the Australasian region.

The Australasian Society for Immunology Incorporated (ASI) was created by the amalgamation in 1991 of the Australian Society for Immunology, formed in 1970, and the New Zealand Society for Immunology, formed in 1975. It is a broadly based society, embracing clinical and experimental, cellular and molecular immunology in humans and animals. The Society provides a network for the exchange of information and for collaboration within Australia, New Zealand and overseas. ASI members have been prominent in advancing biological and medical research worldwide. We seek to encourage the study of immunology in Australia and New Zealand and are active in introducing young scientists to the discipline.

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