

# ASI NEWS

MARCH 2020



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Australian and New Zealand SOCIETY FOR IMMUNOLOGY INC.

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BD SCIENCE COMMUNICATION AWARD

Lelinh Duong



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Liam James O'brien

### **PRESIDENT'S COLUMN**

JOHN FRASER, President president@immunology.org.au

Welcome to the first newsletter for 2020. I think we can all agree this will be a year like no other and will be full of disruptions and cancelled events.

As I write, both New Zealand and Australian governments have imposed travel restrictions that essentially eliminate anything but the most urgent travel across the Tasman. This will limit our ability to gather in meetings such as Council and it is almost certain that our annual meeting scheduled for Auckland will be cancelled given so many of the invited speakers are coming from countries that are now in lockdown. The key question, now that we are in this crucial phase of the pandemic, is how long these restrictions will remain in place and whether we are able to conduct essential business such as Council meetings on-line. I don't think anyone is prepared to guess but my estimate is that it will be a year.

As immunologists, we have often talked about and some have even warned about the consequences of a serious viral pandemic – now we are living it and it will be interesting to see how we all respond both individually and collectively. Some of our members are actively participating in international efforts to stem COVID19 and to develop a vaccine as a long-term solution and we wish you the greatest success.

IUIS has opened a webinar series and is calling for immunology and infectious disease experts to contribute and I encourage those members who feel competent enough to contribute. The details are listed in IUIS Corner in this newsletter. There is so much we still don't know about this virus and the host immune response that leads to the serious lung pathology and high fatality rate in older people. On that rather sober introduction, I can assure you that for the immediate future, ASI will be business as usual, we just won't be able to meet!

On a positive note I was delighted to report at the last AGM in Adelaide that ASI now has record numbers of financial members 1124. In 2019 ASI Life member Jacques Miller (WEHI) along with Max Cooper (Emory) were awarded the Albert Lasker Basic Medical Research Award we were very quick to congratulate both recipients.

Our Society is now benefitting from improved administrative services of Association Executive Services. The new ASI website and back-end membership management system has greatly improved all aspects of comms and management membership information. ASI has built very significant revenue, mostly from the royalties of ICB and the significant return on the Melbourne international meeting. This windfall has now been placed in a long-term investment



portfolio and is managed through JB Were with a group of senior ASI members act as investment advisory group. One of the important questions raised at the AGM is how this revenue can translate into activities that directly benefit our members - for example beefing up our funds for member and speaker travel. That will be a key agenda item for our mid-year council meeting.

The Margaret Baird Women in Immunology Award was first awarded at the successful Adelaide meeting and received strong interest. Another very successful development was the Advanced Immunology School held in July. Thanks to Su Heinzel, Odilia Wijburg, Nicholas Gherardin, Jessica Borger as organizers and all those members who contributed as teachers and mentors. While we are planning to hold the AIS again this year, Covid19 may put a damper on things.

Lastly, I am delighted to welcome Prof Stephen Turner as the incoming Vice President and Connie Jackaman as the new ASI Honorary Secretary and give my warmest thanks to Su Heinzel and Elissa Deenick for their tremendous efforts as past President and honorary Secretary.

I hope you all keep safe and well through this year and look to contribute as immunologists to stemming this pandemic.

## A COUNTRY, A COMMUNITY BURNING BRIGHT

ANGELICA LAU, Newsletter Editor <u>newsletter@immunology.org.au</u>

Welcome back, everyone! Everything is on schedule! I am delighted to publish our first newsletter for 2020.

As I put this newsletter together I am already on my toes and super excited about the new initiatives ASI is planning to put forward this year and seeing our ASI members achieving great things – what a promising start to the year!

I am sure we would all agree that it has been both a busy start to the year and somewhat challenging time for our beloved continent; ranging from raging bushfires, storms to the outbreak of COVID19 pandemic that flood news channel almost every day in the past few weeks. These circumstances have been difficult for many of us collaborators and colleagues, threatening facilities, communities and



THANK YOU TO OUTGOING EXECUTIVES AT ASI2019 (L-R) ELISSA DEENICK (OUTGOING HON. SECRETARY), JOHN FRASER (PRESIDENT), SUSANNE HEINZEL (PAST-PRESIDENT) productivity around the world. I take this chance to thank all the volunteers, emergency services, health workers and our local and overseas friends who have supported various appeals during this time.

As we march through this chaos (while 'social distancing'), it comforts me to know that promising progress is being made to make the world a better place. Experts are joining hands at speeds faster than ever to combat these challenges. I'm sure these won't be stopping any of you from rushing to apply for all the grant opportunities coming up soon – so good luck!

So what's new? I take this chance to welcome our new ASI council members Stephen Turner (Vice President), Connie Jackaman (Honorary Secretary) and Severrine Navarro (QLD Councillor). Big thank you to Susanne Heinzel (former President), Elissa Deenick (former Hon. Secretary) and Sumaira Husnain (former QLD Councillor) who have served and contributed to the growth and success of ASI today.

It has been a pleasure to work with these wonderful female scientists – as an example of those advocating for women in science and gender diversity – showing leadership and passion for their work. ASI is in good hands and supported by those who work together to promote this.



I am already on my toes and super excited about the new initiatives ASI is planning to put forward this year.

Speaking of which, the <u>Margaret</u> <u>Baird Award</u> is soon - read more about this from our Women Initiative's special report!

To get things rolling, I will also thank the Adelaide meeting organisers for the wonderful meeting that highlighted the end of 2019 for ASI. Seeing the bright, intelligent and rather serious faces gathering to share a laugh from the Lafferty Debate was truly a sight. Also congratulations to the many prize-winners from this meeting .

In this newsletter it's my pleasure to introduce our BD Science Communication Award recipient, Lelinh Duong - she truly rocked the stage as a macrophage 'forensic scientist'. I look forward to reporting many new achievements by our members throughout the year.

Did you know you can always submit your collaboration/ conference/travel stories to the ASI newsletter ? I would be more than happy to hear about any interesting stories that would be of interest to the ASI community. Welcome to shoot me an email at anytime! Meanwhile, enjoy our ASI Adelaide Meeting gallery highlights, with credit to our volunteer ASI photographer Jim Zhang. ■

### ASI Meeting highlights















Zealand ty for inology.



















#### ASI MEETING HIGHLIGHTS

#### ASI NEWSLETTER MARCH 2020















## HELLO FROM YOUR NEW HONORARY SECRETARY

CONNIE JACKAMAN, Honorary Secretary <u>secretary@immunology.org.au</u>

This is my first newsletter report since starting the Honorary Secretary role and I thought I'd start with a **big thanks** to outgoing Honorary Secretary, **Elissa Deenick**, for all her hard work and dedication to ASI. Elissa did an amazing job with everything she has setup and organised, and has made an easy transition for the role moving forward.

As a bit of background, I completed my PhD in tumour immunology in WA (with Delia Nelson, Bruce Robinson and Jane Allan), followed by postdoctoral training in muscle pathology. During the postdoctoral training, I became interested in ageing research and met my now longtime collaborators (Miranda Grounds, Hannah Crabb and Danielle Dye). Serendipitously, Hannah, Danielle and myself have all ended up at the Curtin University, working together on multiple age-related projects. It is fantastic to be sharing an office with my fellow EMCRs. Between the three of us, we have a lot of traffic through the office (be it students, staff, children, dogs) and call it our 'Office of Chaos' but this usually means meetings have to be held outside the office (the Tav being a common choice of venue).

I have been an ASI member for many years now, more recently involved as a WA branch committee member since 2013, served as ASI WA branch councillor (2016-2018) and Co-Chair for ASI2018 held in Perth.

I am looking forward to working with everyone. The people who put in their time for ASI all show great dedication; and the supportive environment ASI fosters is to be applauded. I hope that I can do the same going



#### forward!

It's a great time to remind everyone to renew your ASI membership now, because April 1st is the deadline to be eligible for most of our ASI awards and opportunities throughout the year.

Take a few minutes to login here and renew now.



## 2019 TREASURER'S REPORT

ASOLINA BRAUN, Treasurer treasurer@immunology.org.au



To view the 2019 Treasurer's Report, please log in to your ASI member profile, and click on the 'Documents' tab."

Please direct related inquiry to treasurer@immunology.org.au

# Clinical & Translational Immunology

**Impact Factor 7.271** 

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#### Editor-in-Chief: Rajiv Khanna

*Clinical & Translational Immunology* is an open access, online-only journal, seeking to cover basic, translational and clinical studies in all aspects of human immunology, including experimental models specific to human diseases.

ASI members enjoy a discount for publishing in *Clinical & Translational Immunology* 

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# **Clinical & Translational Immunology**

#### Catch up on recent Special Features from *Clinical & Translational Immunology*, including:



### CTI Special Feature on Unconventional immunity: the role of $y\delta T$ cells in host defense and disease

Special Feature Coordinators: Martin Davey and Emily Eriksson

 $\gamma\delta$  T cells have been preserved alongside  $\alpha\beta$  T cells and B cells for ~500 million years of vertebrate evolution.  $\gamma\delta$  T cells are increasingly recognised as having important roles in immune responses to both microbial and non-microbial challenges in mice and humans. In this Special Feature of *Clinical & Translational Immunology*, we highlight the role of  $\gamma\delta$  T cells in infectious disease, cancer, transplantation and the lasting contributions of a pioneer of  $\gamma\delta$  T cell research. (July 2019)



#### **CTI Special Feature on Cell and Gene Therapy**

Special Feature Coordinators: Paul Beavis and Phillip Darcy

Adoptive cellular immunotherapy involving the transfer of autologous chimeric antigen receptor (CAR) T cells has resulted in remarkable responses in relapsed B cell malignancies such as acute lymphoid leukaemia (ALL), often resulting in long-term remission in these patients. These results have led to recent FDA approval of two CAR T cell products for the treatment of CD19+ ALL and non-Hodgkin lymphoma. However, the broad use of this type of therapy for other cancers, in particular solid tumors, has been precluded by both intrinsic and extrinsic factors. This includes the immunosuppressive tumor microenvironment, poor trafficking and infiltration of CAR T cells into the tumor site and heterogenous expression of antigen on the tumor cells. In this Special Feature of *Clinical & Translational Immunology*, we have invited leading experts in the adoptive immunotherapy field to discuss recent innovative developments for potentially increasing the function, trafficking and safety of CAR T cell therapy and for broadening the utility of this specialised form of immunotherapy for treatment of cancers that have failed conventional treatments. (March 2019)

## DERRICK ROWLEY MEDAL HONORS SUSANNE HEINZEL & ALAN BAXTER

CONNIE JACKAMAN, Honorary Secretary

The Derrick Rowley Medal is awarded by ASI Council to those who have demonstrated outstanding service to ASI and the discipline of immunology over many years. In 2019, Susanne Heinzel and Alan Baxter were the most recent recipients to be awarded the Derrick Rowley Medal for their dedication to ASI.

Susanne was nominated by John Fraser, Antje Blumenthal



PICTUREI: ASI PRESIDENT JOHN FRASER AND DERRICK ROWLEY MEDALLIST, SUSANNE HEINZEL

### and Anselm Enders. Her many supporters have said:-

"Susanne has been a tireless supporter of ASI for many years, serving on the Executive as both Secretary and President. Susanne also organised the Advanced Immunology training programme this year and has been instrumental in the ongoing collaboration between ASI and the German Society, DGfl." Susanne has served on ASI council for 14 years:

- · 2002-5 SA/NT Councillor (4)
- · 2009-11 Secretary (3)
- · 2013-15 Meeting Coordinator (3)
- · 2016 Vice President (1)
- · 2017 18 President (2)
- · 2019 Past President (1)

"ASI owe a great debt to Susanne for shaping the society into what it is today."

Alan Baxter was nominated by Jose Villadangos, on behalf of Ian Barr, Dale Godfrey, Andrew Lew and Jenny Rolland. With great nominations as follow:-

"Alan Baxter has played prominent roles on essentially every position from which a member can contribute to ASI. The whole list of beneficial actions Alan has performed for the society would be too long to include here"

"As President he led the push for ASI to bid for ICI2016, something that delivered enormous benefits, financially, scientifically and reputationally. ICI2016 would not have happened, or even aspired to, without Alan's leadership and gusto"

In 2019, Susanne Heinzel and Alan Baxter were the most recent recipients to be awarded the Derrick Rowley Medal for their dedication to ASI.

"Alan has always been eager to enrich the experience of ASI members. He has backed initiatives to commit financial resources for members' benefit. He regularly engages in constructive discussions at Council, General Assembly and other forums, and participates in the defining activities of the society. For instance, he has been a Lafferty debater on several occasions, which he did always with courage, often with wit and occasionally with controversy, terms that describe the quintessential features of what an ASI member should be."

Thanks again to Susanne and Alan for their commitment and service to ASI over many years!

If you know someone worthy of receiving the Derrick Rowley Medal please send through to the Honorary Secretary <u>secretary@</u> <u>immunology.org.au</u>. Nominations can be accepted at any time!

For more information on Derrick Rowley Medallists please go to the website: www.immunology. org.au/awards-and-specialhonours/special-honours/derrickrowley-medal/

## THE IUIS CORNER

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#### **Calling for Experts: COVID-19**

Given the speed at which the spread of COVID-19 is developing and the urgent need for information in this area, we are planning to have biweekly interview/webinars with an expert in the field. It will be hosted on the Frontiers in Immunology platform and would then be circulated though our existing networks.

We kindly ask our members with expertise to get involved in the project and get in touch with me personally. Please let us know by 15 March 2020 if you are able to participate through the link here:

www.iuis.org/news/callfor-experts-iuis-frontiers-inimmunology-webinar-series-oncovid-19/

#### **IUIS scholarships**

Every year, IUIS supports the attendance to the <u>Advanced</u> <u>Course in Basic & Clinical</u> <u>Immunology</u>, which this year takes place on March 1 – 4, 2020 in San Diego, California, USA. The support of a travel bursary of up to USD 2,000, complimentary registration, fully-covered four night's accommodation and meal comes via the <u>Gender</u> <u>Equality and Career Development</u> <u>Committee (GEC)</u> and the <u>Federation of Clinical</u> Immunology Societies (FOCIS). This year, the awardees were:

- Ricardo Mora Cartin (Universidad de Costa Rica)
- Gurvinder Kaur (All India Institute of Medical Sciences)
- Thanich Sangsuwannukul,
   (Faculty of Medicine Siriraj
   Hospital, Mahidol University.
   Thailand)
- Pei-Shan Andrea Sung (Genomics Research Center, Academia Sinica, Taiwan).

Australian and New Zealand students are eligible to apply as long as they have not previously received support from the IUIS or FOCIS. Please, make sure you keep an eye on these opportunities for the coming year.

Similarly, The IUIS Education (EDU) and Gender Equality and Career Development (GEC) Committees and the American Association of Immunologists (AAI) co-sponsor 8 travel awards for trainees from the developing world to attend the excellent (northern hemisphere) summer courses. While Australian and

Australian and New Zealand students are eligible to apply as long as they have not previously received support from the IUIS or FOCIS. Please, make sure you keep an eye on these opportunities.



New Zealand immunologists are not eligible to apply for these scholarships, the courses are exceptional learning opportunities for those who may identify other sources of funding.

This year the courses will take place as follows:

- <u>The AAI Introductory Course in</u> <u>Immunology</u> (July 7 – 12, 2020, at the UCLA Luskin Conference Center, Los Angeles, California).
- <u>The AAI Advanced Course in</u> <u>Immunology</u> (July 26 - July
   31, 2020, at the Westin Copley Place, in Boston, MA).

#### **Upcoming IUIS Congresses**

- 2022, Cape Town, South Africa. August 15th - 20th will have the theme *"Turning discoveries into treatments"*. Congress president is Clive Grey and the Scientific Committee will be chaired by Mark Davis (USA) and vice chaired by Miriam Merad (IUIS vice-president, USA). Visit the website: <u>www.iuis2022.org</u>
- 2025, Vienna, Austria, August
   17th 22nd

#### **Upcoming IUIS Council meetings**

- 71st Council Meeting,
   29 November 2020, Lilongwe,
   Malawi
- 72nd Council Meeting,
   22 May 2021, Cuba
- 73rd and 74th Council Meetings,
   14 & 16 August 2022, Cape Town,
   South Africa. ■

# THE 20/20 WOMEN'S INITIATIVE FOR ASI

KYLIE QUINN, Women's Initiative Coordinator kylie.quinn@monash.edu



In this newsletter, we have LOTS of news to recap after the Annual Meeting.

#### Women's Initiative event: "Active for Equity"

On the first day of the Annual Meeting, we were joined by Prof Karen Farquharson from University of Melbourne, who spoke to us on what works and what doesn't work in terms of diversity and inclusion practices in the workplace. Prof Farquharson gave a thoughtprovoking talk and then led a discussion session - if you would like the slides from her talk, please email me and I can pass them on.

A few key concepts from her talk on how we can be more "Active for Equity" were:

- The biggest impact you can have is to mentor and sponsor folks.
- Be mindful of extra challenges faced by folks of intersectional identity, i.e. folks that identify with multiple underrepresented groups.
- Incentivise management to increase diversity in their teams by making management socially accountable.



PROF KAREN FARQUHARSON FROM THE UNIVERSITY OF MELBOURNE LEADING THE DISCUSSION ON DIVERSITY PRACTICES AT THE WOMEN'S INITIATIVE MORNING TEA



HANDOUTS FROM THE "ACTIVE FOR EQUITY" EVENT, INCLUDING OUR GENDER EQUITY TOOLKIT, NOW AVAILABLE ON THE ASI WEBSITE.

We co-designed and distributed a handout summarising Prof Farquharson's talk (which is available on the ASI website under "Recommended Resources") and, to celebrate the event, we gave out badges and cookies (which were delicious). There were over 100 people registered for the event and a number of very welcomed, unregistered attendees – it was great to see substantial participation from the men of ASI, which was a key aim of the event. We'd like to thank the ASI Executive and the Walter and Eliza Hall Institute for their generous support of the event, Prof Karen Farquharson for her insights and all the attendees for joining the conversation.

#### WOMEN'S INITIATIVE AWARDS

A number of awards were presented at the Annual Meeting, including the Margaret Baird Lectureship and Women's Initiative Travel Awards.

#### Margaret Baird Lectureship Awardee – Dr Jess Borger

The inaugural Margaret Baird Lectureship was awarded to Dr Jessica Borger, a Lecturer at Monash University and a wellknown advocate and mentor for women and ECRs in the immunology community. She has supported and led a number of initiatives, including a number of institutional committees on gender equity, diversity and inclusion and the Monash University Early Career Researcher Immunology Symposium, ImmuMon. She has authored a number of pieces on women in



INAUGURAL AWARDEE OF THE MARGARET BAIRD LECTURESHIP, DR JESSICA BORGER (L), WITH MARGARET BAIRD'S DAUGHTER WHO PRESENTED THE AWARD, HARRIET POPE (R).

research, including a great article in *Women's Agenda* that you can find on the ASI website under "Recommended Resources".

More recently, she engaged with Dr Jess Wade from Imperial College London to create a Wikipedia page for Margaret Baird. Jessica is an incredibly engaging speaker and will be visiting Adelaide, Brisbane, Wellington and Dunedin on her lectureship tour, so make sure to keep an eye out for her visit - you won't want to miss it!

We were also joined by Margaret's daughter, Harriet Pope, who presented the award on behalf of Margaret's family. Harriet reflected on her mother's warm and generous character (which she seemed to have inherited), her pride in her mother for traveling to meetings all around the world, interacting with scientists and contributing to important research, and her excitement to be amongst the ASI community that she'd heard so much about.

Finally, there was a great level of interest in this award and it was a joy to review the applications. There is a lot of wonderful work being done by individuals across Australia and Aotearoa/New Zealand to support women in immunology. So thank you to all of our fantastic applicants, we appreciate your efforts and keep up the great work.

#### Women's Initiative Travel Awards

As in previous years, the ASI Women's Initiative offered travel awards to support women with parental responsibilities to attend the Annual Meeting. Our awardees this year were Niamh Troy, a PhD candidate from Telethon Kids Institute, and Dr Dimitra Zotos, a researcher at Monash University. We have some brief reports from Niamh and



WOMEN'S INITIATIVE TRAVEL AWARDEE, NIAMH TROY, FROM THE TELETHON KIDS INSTITUTE

#### Dimitra:

#### Women's Initiative Travel Awardee – Niamh Troy

My research interests are on the maturation of the infant innate immune system, and how it can be impacted by respiratory viral infections in the first two years of life, a critical window for asthma and allergy development. The focus of my PhD is to define the mechanism of action of a bacterial immunomodulator that we have recently shown provides protection against these infections (<u>https://www.</u> jacionline.org/article/S0091-<u>6749(19)30754-7/fulltext</u>). To do this, I am combining immunology with transcriptomics and network graph theory and "omics" integration.

The WI award made it possible for my partner to accompany me to Adelaide to care for my son (Seamus, 10 months old) while I attended the conference, with peace of mind knowing he was close by. The conference had an excellent scientific program of national and international speakers, kicking off with the Foundation lecture from Prof. Jonathan Sprent; the excitement in the room for the program ahead was palpable. A particular highlight was Pamela Ohashi's talk on the role of regulatory immune cells. Her energy and determination were inspiring. The collaborations continued at the conference dinner with teams of immunologists flexing their brain muscles in the famous and fierce Limerick battle!

I would like to acknowledge my supervisors Prof. Pat Holt, Dr. Deborah Strickland and Dr. Anthony Bosco for their continued support of my career development and for their understanding that I wear more hats than one! I would like to thank ASI and the Women's Initiative Councillor, Dr. Kylie Quinn, for supporting women in immunology and for responding to the barriers that are commonly cited by female researchers.

#### Women's Initiative Travel Awardee – Dr Dimitra Zotos

My research has two major focuses, revolving around B cell biology. The first involves examining the role of IL-21 in humoral immunity using mouse models. The second, a more recent endeavour, focuses on the



WOMEN'S INITIATIVE TRAVEL AWARDEE, DR DIMITRA ZOTOS, FROM MONASH UNIVERSITY AND HER SON, ARI AT THE POSTER SESSION.



ARI WAS A BIG FAN OF THE JOMAR LIFE RESEARCH "CASH GRAB" BOX

role of B cells in graft rejection in lung transplant recipients (performed at the Alfred Hospital, Melbourne).

I'm grateful to ASI for offering this travel award as it allowed me to attend the ASI annual meeting with my 1-year old son, Ari, and my partner, Shalin, to care for him. Attending the meeting without Ari (while I know many parents do this) was quite a confronting prospect and one I may not have been able to go through with. Having him nearby allowed me to be at ease at the meeting, to present my research, to network widely and to make the most of all the annual meeting had to offer.

Also, I would like to especially thank the women at the Jomar booth for having endless patience with entertaining Ari and showing him the money machine cube (on repeat)!

#### New Eligibility Criteria for Women's Initiative Awards in 2020

In 2019, we had the *first* Branch Meeting Carers Award to help women and men with caring responsibilities to attend the Branch Meetings. In 2020, we will have an analogous award for the Annual Meeting. This means that the Women's Initiative Awards category will now include Branch Meeting Carer Awards, Annual Meeting Carer Awards and Women's Initiative Travel Awards, as well as the Margaret Baird Lectureship.

We will have multiple deadlines for the Branch Meeting Carer Awards to synchronise with the Branch Meetings – see the ASI website for details.

#### http://www.immunology.org.au/ awards-and-special-honours/ awards/witravel/

To clarify the different awards that are available, we also have a handy flow chart! We will have the flow chart on the ASI website under "Women's Initiative Awards" and we will update the website with the new criteria, application forms and award deadlines.

# Immunology & Cell Biology

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# Immunology & Cell Biology

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# Catch up on recent Special Features from *Immunology & Cell Biology*, including:



#### Special Feature on Immunological Memory

The August 2019 issue of *Immunology & Cell Biology* contains a Special Feature on Immunological Memory. The term "Immunological Memory" refers to the phenomenon that, after an initial exposure, immune mechanisms respond more vigorously to subsequent exposure to a pathogen. This is fundamental to the concept of immunity; it is a cornerstone many immune-based therapies and it has been documented in human history for thousands of years. However, there remains much to be learned about the basic biology underlying this phenomenon. This series of articles explores recent advances in immunological memory, by examining our current understanding of CD4 T cell memory differentiation pathways, evaluating the impact of the microbiome on developing B and T cell memory and exploring the role of metabolism in control of memory cell development. The articles also highlight how our understanding of the basic biology of immunological memory can be used to refine the design of immunotherapies, including vaccines and cell-based cancer therapies. Finally, several articles explore the broadening definition of immunological memory, with an exploration of trained immunity and virtual memory cells. *Immunology & Cell Biology* thanks the coordinators of this Special Feature – Joanna Kirman, Kylie Quinn and Robert Seder – for their planning and input.



#### **Special Feature on Primary Immunodeficiencies**

The April 2019 issue contains a Special Feature on Primary Immunodeficiencies. Inborn errors of immunity, or primary immunodeficiency disorders (PID), are monogenic diseases of the immune system. These affections give rise to complex diseases with a wide range of susceptibility to infections. The advent of next-generation sequencing has ushered in a Golden Age of PID research. The number of genes identified as responsible for PID has been rapidly rising, with a new PID gene identified on average every week for the past 10 years. Despite the recent explosion of knowledge, 90% of the estimated 3000 PID genes have yet to be studied. This Special Feature discusses recent advances in PID research, and what it means for our understanding of human immunology. *Immunology & Cell Biology* thanks the coordinators of this Special Feature – Adrian Liston & Stephanie Humblet-Baron – for their planning and input.



#### Special Feature on Macrophages in Tissue Repair

The March 2019 issue of *Immunology & Cell Biology* contains a Special Feature on Macrophages in tissue repair. In the late 18th century, Metchnikoff proposed the 'phagocytosis theory' in which he controversially placed the contribution of macrophages to organismal biology as being of even greater importance than their role in bactericidal defence. His view still prevails today, with macrophages appreciated as playing a fundamental role in the process of tissue repair. The present series of articles explores recent advances in this area, highlighting the importance of macrophage heterogeneity, plasticity, tissue specificity, activation status and cellular metabolism on the outcome of tissue repair. Finally, in a broader view of the repair process, the role of neutrophils as well as eicosanoids as supporting macrophage migration and polarisation is discussed. *Immunology & Cell Biology* thanks the coordinators of this Special Feature – Tiffany Bouchery and Nicola Harris – for their planning and input.



Find out more by visiting the journal's homepage here: http://www.wileyonlinelibrary.com/journal/icb Or access it by scanning this code



## **BD SCIENCE COMMUNICATION AWARD RECIPIENT – LELINH DUONG**

2019 ASI ANNUAL MEETING, ADELAIDE

LELINH DUONG, PhD candidate, supervised by Dr Connie Jackaman; Curtin Health Innovation Research Institute, Curtin University, Perth, Western Australia Ielinh.duong@postgrad.curtin.edu.au LinkedIn: www.linkedin.com/in/lelinh-duong-5574a9188



"THRILLED TO BE PRESENTING AT ASI 2019 IN THE BD SCIENCE COMMUNICATION SESSION!"

#### 2019 BD Science Communication Winner: Lelinh Duong

Last year at the ASI meeting in Adelaide I had the pleasure of receiving the BD Science communication award amongst a group of outstanding early career researchers. I presented the work of my PhD project, which looks at the impact of ageing on tumourassociated macrophages and how this affects cancer progression in the elderly. My presentation was inspired by CSI: Crime Scene Investigation, where I examined the evidence found at a "crime scene", which represented some key findings from my PhD project.



FIGURE 1: TUMOUR-ASSOCIATED MACROPHAGES (TAMS) CAN CONSTITUTE A LARGE PROPORTION OF CELLS IN THE TUMOUR MICROENVIRONMENT AND EXISTS WITHIN A SPECTRUM OF FUNCTIONAL PHENOTYPES: FROM ANTI-TUMOUR TO PRO-TUMOUR. TAMS CAN BE READILY SUBVERTED BY CANCER CELLS TO ADOPT A "BAD", TUMOUR PROMOTING ROLE. AGEING MAY INFLUENCE THIS PROCESS AND INCREASE THE NUMBER OF PRO-TUMOURIGENIC MACROPHAGES. THIS CAN LEAD TO FASTER TUMOUR GROWTH AND POORER OUTCOMES FOR ELDERLY CANCER PATIENTS.

#### **BD SCIENCE COMMUNICATION AWARD RECIPIENT**



Few studies have looked at the effect of ageing on macrophages and no studies have looked at it in mesothelioma and lung cancer. Studies conducted by our group have identified a major defect in the form of increasing number of suppressive macrophages in tissues of elderly mice, with altered sensitivity to pro- or anti-inflammatory stimuli.

FIGURE2: THE "CRIME SCENE" ABOVE IS A SLIDE TAKEN FROM MY BD SCIENCE COMMUNICATION PRESENTATION WHERE I REPORTED "EVIDENCE" IN THE FORM OF KEY FINDINGS FROM MY PROJECT.

Currently, I am conducting my PhD research at Curtin Health Innovation Research Institute. a part of Curtin University in Western Australia under the supervision of Dr Connie Jackaman, A/Prof Delia Nelson and A/Prof Fiona Pixley. In the Immunoageing group led by Dr Connie Jackaman, we are interested in studying the biology of ageing and investigating the underlying mechanisms that contribute to ageing and agerelated diseases, including cancer, muscle injury and dementia.

The world population is ageing with many cancers emerging in the elderly, yet the elderly remain an underrepresented group in pre-clinical and clinical cancer research. Mesothelioma and lung cancer are commonly diagnosed in elderly people and prognosis for these types of cancers remain poor; anti-cancer treatment options are limited and may not be effective. This may be due to the impairment of the immune system with ageing, this concept is known as "immunoageing". Macrophages are abundant immune cells in tissues and tumours; contributing up to 50 percent of the tumour burden, which is often correlated to poor clinical outcome.



"PRESENTING BREAKING NEWS: MACROPHAGES ARE SUSPECTED OF PROMOTING CANCER GROWTH IN THE ELDERLY AND ARE BEING INVESTIGATED"

Currently, few studies have looked at the effect of ageing on macrophages and no studies have looked at it in mesothelioma and lung cancer. Studies conducted by our group have identified a major defect in the form of increasing number of suppressive macrophages in tissues of elderly mice, with altered sensitivity to pro- or anti-inflammatory stimuli. These suppressive macrophages may support tumour growth more readily in the elderly. However, the mechanisms behind age-

related macrophage dysregulation have not been elucidated and forms the objective for my PhD project. We have convincing data which identifies a key pathway that is perturbed with ageing and cancer. In upcoming work, we will be treating our animal cohorts with several therapeutic drugs targeting this pathway. The outcome from these experiments will hopefully help guide the design of effective anti-cancer therapies for the elderly. ■

# **ASI NSW BRANCH REPORT**

HELEN MCGUIRE, NSW Branch Councillor <u>helen.mcguire@sydney.edu.au</u>

#### Hi everyone,

We're in full planning mode for a whole range of immunology activities to be held in NSW this year. We'll keep you posted with email blasts as details are finalised.

#### **Day of Immunology Celebrations**

Grill-an-Immunologist This year we aiming looking to hold a 'Grill-an-Immunologist' career webinar with various high schools and teachers, dates are to be confirmed. Contact Angelica Lau (a.lau@garvan.org.au) and Joanne Reed (j.reed@garvan. org.au) for more info and to get involved.

### UNSW Museum of Human Disease partnership (various dates)

Continuing our longstanding association, this year we'll get involved in teacher training days, public outreach events and our ever popular 'face-time with a scientist' video link ups to our regional high school network. Contact Fabio Luciani (luciani@ unsw.edu.au) for more info and to get involved.

New – Featuring Immunology Research at the Westmead Hub – 28th April Plans for this the branch meeting are well underway, with a likely return to Bowral Peppers Craigieburn for our retreat venue. Stay tuned for a 'save the date' email – but feel free to add a calendar placeholder for 3rd and 4th September.

Showcasing the wonderful immunology research at Westmead and their extended collaborative network, Westmead Institute will host a series of short talks throughout the day at the Westmead Education and Conference Centre (Level 2; Lecture theatre 3). All welcome to attend, reaching out to hospital connections as well as undergraduate students.

Contact Joanne Gamble (joanne. gamble@sydney.edu.au) and Scott Byrne (scott.byrne@sydney. edu.au) for more info and to get involved.

Visiting Speakers Program Looking forward to hosting; Carla



Rothlin - Garvan August 2020, Prof. Shabaana Khader - USYD Jan/Feb2021 with details for Stephanie Boisson-Dupis' visit to be confirmed - watch this space!

We'll provide details of their visit in upcoming newsletter editions and via NSW member email updates.

#### **NSW/ACT** branch meeting

Due to the current Coronavirus pandemic we have decided to cancel the ACT/NSW ASI Branch retreat that we started to plan for September. I'm sure it will come as no great shock to each of you, given the current advice around social distancing.

We will regularly assess the situation and may plan a branch retreat for a later date this year if it is safe to hold such an event. We will be in touch as soon as we have more information to share but unfortunately it seems currently unlikely that we will be able to meet this year for our retreat.

Please feel free to contact me if you would like to get more information or get involved in any events (helen.mcguire@sydney. edu.au). As always, I'm always keen to hear suggestions.

## **SPECIAL INTEREST GROUP NEWS**

HELEN MCGUIRE, NSW Branch Councillor <u>helen.mcguire@sydney.edu.au</u>

It is with great enthusiasm I report on our ASI Special Interest Groups. We're now entering our 2nd year of ASI SIG re-invigoration and there is a buzz of energy!

You may recall this time last year we announced the consolidation of our SIGs reinvigoration, that 8 engaged SIGs up and running in the society. Now, I'm pleased to write as was announce at the AGM last year - welcome to the **Immunometabolism SIG**! Stay tuned for an introduction article from their leadership group in a later newsletter edition this year.

As for this edition, read on for great news and reports from our Education SIG and our Mucosal Immunology SIG. Don't forget to join mailing lists for the various SIGs that interest you. This is accessible through your ASI website member profile- you can think about it when you are renewing your ASI membership. Also checkout each SIGs webpage for updates <u>www.immunology.</u> <u>org.au/asi-programs-and-</u> <u>opportunities/special-interest-</u> <u>groups/</u>.

Get involved in ASI Special Interest

# Groups

[Join SIG mailing lists through your ASI website member profile]

Please join in welcoming 2019

Clinical Immunology Infection and Immunity Mucosal Immunology Education Tumour Immunology Stromal Immunology

Systems Immunology (SITQA)

Innate Immunity

Immunometabolism

## NOOSA THROUGH THE MUCOSA AND MICROBIOME

JONATAN LEFFLER (on behalf of the MI committee: Simon Phipps, Damon Tumes, Phil Stumbles, Lisa Connor, Simon Keely, Charani Ranasinghe, Mike McGuckin, Ken Beagley and Colby Zaph)

For more information on Mucosal Immunology SIG, visit the ASI website via the <u>link here</u>.

On 24th-26th June this year, Mucosal Immunoloigists and Microbiome researchers had originally planned to gather in Noosa on the Sunshine Coast, Queensland for a three day meeting. The symposium will provide an excellent opportunity to hear from world-leading experts in mucosal immunology and microbiome research and to present and discuss novel data in a small and friendly setting with fellow researchers from across Australia and New Zealand.

On 24th-26th June this year, Mucosal Immunoloigists and Microbiome researchers had originally planned to gather in Noosa on the Sunshine Coast, Queensland for a three day meeting. The meeting will feature several high-profile speakers including Kim Barrett (UCSD), Benjamin Marsland (Monash), Gerard Kaiko (U Newcastle) and Valeire Verhasselt (UWA). In addition to an excellent scientific program, including themes such as MAIT cells, maternal lifestyle and neonatal immunity, microbiome and non-mocosal diseases, there will also be plenty of opportunity for networking and socialising in beautiful Noosa.

As the Mucosal Immunology SIG is committed to facilitate attendance of students and early career researchers, the registration fee will be reduced by \$200 for the 25 first students/ early career researchers who register for the symposium.

With much regret, however, we have had to cancel this meeting due to precaution for current With much regret, we have had to cancel this meeting.

Many thanks to our Speakers, Chairs and registered Delegates for their support.

COVID19 pandemic.

Many thanks to our Speakers, Chairs and registered Delegates for their support.

All delegates will be contacted soon about their refunds.

We hope you consider attending this symposium in the future and look forward to welcoming you next year.



# Mucosal Immunology and Microbiome Symposium, Noosa

# MEETING CANCELLED

With much regret, we have had to cancel this meeting due to added precautions in response to the ongoing COVID19 pandemic. All delegates will be contacted soon about their refunds. Welcome to get in touch with our <u>muscosal SIG</u> <u>committee</u> and stay updated with events in the future on <u>ASI's event page</u>.



*Kim Barrett* University of California, San Diego



**Benjamin Marsland** Monash University



Alexandra Corbett University of Melbourne and Doherty Institute



Gerard Kaiko University of Newcastle and HMRI



24th-26th June 2020

Peppers Resort & Villas, Noosa, QLD

**Connie Wong** Monash University



Valerie Verhasselt University of Western Australia

#### More information at:

https://www.immunology.org.au/events/ASI-Mucosal-Immunology-and-Microbiome-Symposium-Registration/



Australian and New Zealand SOCIETY FOR IMMUNOLOGY INC.

## LET'S TALK ABOUT EDUCATION IN IMMUNOLOGY

SAMY SAKKAL, on behalf of Education SIG committee <u>Samy.Sakkal@vu.edu.au</u>

The 48th annual scientific meeting was an historic occasion for the education special interest group since it announced (for the first time) a place for immunology pedagogy within the main scientific event of our great ASI community. Our workshop was held on Wednesday 11th December which saw up to 40 delegates attending (a respectable number considering that our session was competing with lunch!). We want to say thank you to all delegates and speakers for their enthusiastic participation during the presentations and at our short meeting afterwards. Kudos must go to our national coordinator Dr Kim Murphy (Monash University) who was responsible for reviewing abstracts for our meeting and has been leading the education SIG since its inception, and our numbers have since grown to over 100 participants to date.

The session kicked off with Professor Natkunam Ketheesan's presentation titled "Developing

The 48th annual scientific meeting was an historic occasion for the education special interest group since it announced (for the first time) a place for immunology pedagogy within the main scientific event of our great ASI community.



(L TO R) SAMY SAKKAL, MAURIZIO COSTABILE, NATKUNAM KETHEESAN AND HELEN MCGUIRE ROLE PLAY THE IMMUNE RESPONSE TO BACTERIA AT THE 48TH ANNUAL SCIENTIFIC MEETING AS PART OF "TEACHING WITH TEE'S

a consensus curriculum in immunology and building teacher resources for medical schools in Sri Lanka." Ketheesan presented a format for implementing an integrated immunology curriculum that could be adopted by others in resources restricted settings. Indeed, the idea of developing a national curriculum will be a topic for discussion at our next SIG meeting.

Next, Dr Samy Sakkal presented his novel contributions to kinaesthetic learning in his presentation titled "Teaching with Tee's: A novel kinaesthetic teaching strategy for undergraduate immunology teaching". Samy's presentation highlighted the impact of using T-shirts in his immunology teaching and his presentation was accompanied by a role-playing demonstration where delegates could witness "the immune response to bacteria" with starring roles by Maurizio (who played out the role of the DC), Ketheesan (CD4+T helper cell) and Helen (phagocyte). The role play was enjoyed by all and the SIG hopes

Some of our best researchers rarely get to share their expertise as educators thus the education SIG provides a forum that current and aspiring academics could benefit from

to feature more of these types of presentations in the future given that the best way to observe one's pedagogy is to experience it.

Our third and final presentation was from Dr Maurizio Costabile whose presentation was titled "Development and evaluation of an interactive simulation to teach undergraduate immunology students all stages of monoclonal antibody production." Maurizio's presentation highlighted the importance of active learning in teaching complex immunological concepts, with significant impact of student learning outcomes.

After the presentations, our members convened to discuss the future of the education SIG. The first item on the agenda was to inform members that the ASI executive had authorized the creation of a new \$1000 teaching award. It was also suggested that a student prize be created to support the next generation of aspiring immunology educators. Other issues discussed include scheduling our workshops at future annual meetings so that they did not compete with lunch. Members had also expressed that we needed representation in the running of the Advanced Immunology School.

In closing, I would like to thank everyone that attended and

contributed to the education SIG workshop. I would like to invite more ASI members to consider joining the. For more details go to our Education SIG page on the ASI website here:

#### https://www.immunology.org.au/ asi-programs-and-opportunities/ special-interest-groups/ education/

Some of our best researchers rarely get to share their expertise as educators thus the education SIG provides a forum that current and aspiring academics could benefit from and I look forward to seeing wider representation at our next annual scientific meeting or our quarterly online meetings.

Our next meeting will be on Thursday 16th April and we encourage new members to join.

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### UPCOMING VISITING SPEAKERS IN 2020

STUART MANNERING, VSP Coordinator <u>s.mannering@svi@edu.au</u>





Prof Paul Kubes. After some delays, Paul will be visiting in early May 2020. He will be hosted jointly

by Anne Bruestle (ANU) and Michael Hickey (Monash). Paul will be visiting Canberra, Sydney, Melbourne and NZ.



A/Prof Carla Rothlin: Carla will be visiting Melbourne, Sydney and Brisbane in early

August 2020. Her visit is being hosted by Ian Parish of the Peter Mac

The next round of nominations for the ASI Visiting Speaker program close on 31st March 2020.



Prof Hai-Hui Xue will be visiting in October 2020. Lisa Mielke of the ONJI will be hosting the visit. The itinerary

is currently being finalized.



Prof Andre Veillette. Fernando Guimaraes of University of Queensland will

host Andre's visit. He is planning to come in November-December 2020 and visit Vic, NSW, QLD, WA and NZ.



Prof Shabaana Khader. Brin Ryder of Otago University, NZ will be the host for Shabaana. She will

visit in Jan/Feb 2021. The itinerary is currently being finalized.



Dr Stephanie Boisson-Dupis, will be hosted by Stuart Tangye of the Garvan Institute. She is

planning to visit in early July 2020. The itinerary is currently being finalized.

#### **Reminder:**

The next round of nominations for the ASI Visiting Speaker program close on 31st March 2020.

Please see the ASI website for nomination forms and instructions www.immunology.org.au/asiprograms-and-opportunities/ visiting-speaker-program/ nominate-a-speaker/

Thanks to all the speakers, hosts, ASI volunteers and members who continue to make the visiting speaker programme such a vibrant part of ASI. ■

## **PROF. STEVEN ALBELDA FROM UNIVERSITY OF PENNSYLVANIA VISITS ASI COMMUNITY**

ALEC REDWOOD, Principle Research Fellow, National Centre for Asbestos Related Diseases, University of Western Australia; Harry Perkins Institute, QEII 6 Verdun St Nedlands

In 2019 Professor Steven Albelda from the prestigious Perelman School of Medicine at the University of Pennsylvania, the oldest school of medicine in the United States, visited Australia as an ASI VSP. Steve arrived in Perth on the October 14th and left Australia on the 28th of October having visited, Perth, Melbourne and Sydney.

#### ASI, Western Australia.

The National Centre for Asbestos Related Diseases (NCARD) was fortunate to be joined for their 2019 Annual Scientific Meeting by Professor Steve Albelda (See photo 1) from the prestigious Perelman School of Medicine at the University of Pennsylvania, the oldest school of medicine in the United States.

A distinguished academic and long-time research collaborator with Bruce Robinson and other NCARD researchers. Steve was in Perth as a quest of the Australian & New Zealand Society for Immunology (ASI). Steve's also gave public lecture (open to all the WA scientific community including ASI member) as part of the NCARD Annual Scientific Meeting, entitled "Novel Clinical Trials in Mesothelioma". Steve also provided his comments and a thoughtful and generous summary of the meeting. He also said what I suspect will be a favorite quote for us for a very



PHOTO 1: RESEARCHERS AT NCARD WITH PROF. STEVEN ALBELDA (BACK ROW, CENTER, 6TH FROM THE LEFT)

long time: "For mesothelioma researchers, coming to Perth is like coming to Mecca".

Steve also presented a seminar on "Understanding the Immune Environment in Malignant Mesothelioma and Lung Cancer (Don't believe everything your rodent friends tell you" to ASI members (see photo 2). His visit to Perth was highly successful, generating a lot of scientific discussion and establishing collaborations with local researchers.

#### ASI, Victoria.

We were fortunate to have Professor Steven Albelda visiting the Peter MacCallum Cancer Centre on Oct 22nd 2019. Steven's visit was sponsored by the ASI and Immunology group of Victoria (IgV) through the visitor speakers program. Steven has been one of the original pioneers of using chimeric antigen receptor (CAR) T cells, a specialised form of immunotherapy for treatment of patients. His visit was timely particularly given the recent FDA approval of CAR T cells for the treatment of certain blood cancers and the recent announcement by the Federal government of the "New Centre of excellence for cellular immunotherapies" at the Peter Mac.

Steven's presentation was titled "CAR T cells for solid tumors: A work in progress. His seminar was well attended by local ASI/ IgV members from the Peter Mac and other surrounding medical Institutes. A number of clinicians interested in the development of CAR T therapy for patients were also in attendance. His seminar was very well received where he discussed the current state of play of using CAR T cells for treatment of both blood and solid cancers in the clinic which was followed by the progress of several novel approaches his laboratory are developing for further improving this approach. In addition to his seminar, Steven spoke to a number of scientists and students throughout the day and also toured the Cell Therapy facility led by Dominic Wall. Overall, Steven provided very positive feedback from his visit to Melbourne and the Peter Mac and he spoke highly of the visitors speaker program that supported his visit. He was impressed by the high quality of research here in Melbourne and was looking forward to establishing several collaborative projects in the future.

His visit to Perth was highly successful, generating a lot of scientific discussion and establishing collaborations with local researchers.

#### ASI, New South Wales

ASI NSW was pleased to host Steven Albelda on the ASI VSP tour. Steve presented a special seminar at the Chris O'Brien **Lifehouse Education Centre** on 25th October 2019, entitled "Novel Cancer Immunotherapy **Clinical Trials: Beyond Checkpoint** Blockade". Following active discussion engagement with the audience, Steve then met with members of our Sydney-wide research community for the remainder of the day, particularly at the Charles Perkins Centre at the University of Sydney. This included a networking lunch at the nearby Grandstand café. This leg of Steve's visit was coordinated by ASI NSW Councillor Dr Helen McGuire.



PHOTO 2: STEVE PRESENTING A SEMINAR ON "UNDERSTANDING THE IMMUNE ENVIRONMENT IN MALIGNANT MESOTHELIOMA AND LUNG CANCER.

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# **INTERNATIONAL TRAVEL AWARDS**

### **ITA RECIPIENT - AMANIA A. SHEIKH** B CELL-T CELL INTERACTIONS, KEYSTONE RESORT, KEYSTONE, COLORADO USA, FEBRUARY 10-14, 2019

Affiliation: Groom lab, Walter & Eliza Hall institute of Medical Research

sheikh.a@wehi.edu.au/ @amania\_sheikh

In February this year, I was fortunate to attend B Cell-T Cell Interactions Symposia held in keystone, Colorado, USA. The meeting was held in the Keystone, a popular summit county known for its winter activities including snowboarding, ski schools for all ages, large man-made lake that freezes over and is used for ice skating. Here, I was traveling to keystone in winters to attend my first international conference to get the best of what keystone had to offer.

After arriving at Denver, I caught a shuttle service which was over a period of 1.5 hours surrounding

After arriving at Denver, I caught a shuttle service which was over a period of 1.5 hours surrounding by picturesque countryside with snow covered mountains and climbed to approximately 9248 meters above sea level, reaching keystone resort, the site of the meeting. by picturesque countryside with snow covered mountains and climbed to approximately 9248 meters above sea level, reaching keystone resort, the site of the meeting. While, I was en route to keystone, I shared a ride with other conference attendees that led to new connections and collaborations.

The five day keystone symposia conference was attended by several students and early career scientists all brought together



AMANIA SHEIKH USING HAND GESTURES TO GET HER POINT ACROSS. PHOTO CREDIT JOANNA GROOM

#### **ITA RECIPIENT - AMANIA A. SHEIKH**



KEYSTONE MAN-MADE LAKE IN THE HEART OF KEYSTONE VILLAGE

under the umbrella of B cell-T cell interactions. There was a plethora of presentations from distinguished scientist in the field presenting key highlights on unpublished or "in-press" research that covered broad range of topics from basic biology of Tfh development, B cell activation and differentiation. current advancements and future directions for vaccine development. Of these, there were few notable presentations that are worth mentioning. Professor Carola G Vinuesa from Australian National University. Canberra, presented a latest research by her PhD student which eloquently demonstrated that B cell class recombination (CSR) occurs prior to geminal centres. Stephanie C. Eisenbarth informed us of her discovery of a novel IL-13 producing T follicular helper cells and their role in producing anaphylactic IgE to allergens.

My own poster presentation tilted "Context dependent role for T-bet in T follicular helper differentiation and germinal center function following viral infection" was scheduled on the second last day of the conference. I was pleased with the attendance at my session. I was driven by enthusiasm shown by delegates that encouraged me to engage in long discussions without realizing that I have been talking non-stop for hours! Amber Papillion a PhD student presented her project about intrinsic IL-6 mechanism in T follicular cells that help TFHs to tolerate inhibitory IL-2 response.

Overall, the conference provided me an opportunity to get valuable



THE SNOWFALL & ME, KEYSTONE LODGE.

I had my first ever ski lesson on the last day of the meeting and the rest of the days during lunch breaks I enjoyed strolls around keystone lodge. I am grateful to Australian & New Zealand Society for Immunology for International Travel Award to support my travel to this conference.

feedback on my PhD research topic and broaden my prospective of B and T cell interaction research internationally. In addition, the meeting fostered a great networking environment and future collaborations. I had my first ever ski lesson on the last day of the meeting and the rest of the days during lunch breaks I enjoyed strolls around keystone lodge. I am grateful to Australian & New Zealand Society for Immunology for International Travel Award to support my travel to this conference. My attendance in this meeting has been a stepping stone in my budding scientific career.

### **ITA RECIPIENT – ANDREW HEIGHTEN** 2019 ASI ANNUAL MEETING, ADELAIDE, AUSTRALIA

Affiliation: Supervised by Prof. Marcus Altfeld andrew.highton@leibniz-hpi.de

I completed my PhD in New Zealand at the University of Otago with Assoc. Prof. Roslyn Kemp before travelling to Oxford to work with Prof. Paul Klenerman for my first postdoctoral position. I am currently working in the Virus Immunology Department with Prof. Marcus Altfeld at the Heinrich Pette Institute in Hamburg, Germany. The work group has a strong focus on protective immunity against HIV-1 and hepatitis viruses and, in particular, the role of NK cells in this protection. Research into NK cell receptor-ligand interactions

I was thrilled to find that I was the recipient of a 2019 International Travel Award. The award enabled me to travel from Germany to Australia for ASI2019 in Adelaide, and to Melbourne where I visited Prof. Andrew Brooks at the Peter Doherty Institute and Prof. Nick Huntington at Monash University. is also ongoing, including my research on NK cell education and its effect on metabolism.

I was thrilled to find that I was the recipient of a 2019 International Travel Award. The award enabled me to travel from Germany to Australia for ASI2019 in Adelaide. and to Melbourne where I visited Prof. Andrew Brooks at the Peter **Doherty Institute and Prof. Nick** Huntington at Monash University. It was great to meet Andrew, Nick and their respective lab members. Both groups have exciting ongoing research projects and I was happy to receive feedback on my own work from experts in the NK cell field.

ASI held an exciting meeting this year with a great line-up of invited speakers including Prof. Richard Flavell, who spoke on the importance of neuronal IL-18 in an intestinal infection model, and Prof. Ronald Germain, who demonstrated advanced imaging technologies used to study the spatial organisation of immune cells in tissue. I was also grateful I hope to transition back to research in Australasia region after I finish my postdoctoral training in Hamburg, so it was invaluable to be able to reintroduce myself to research and researchers from New Zealand and Australia, both those at the ASI meeting and the labs I visited.

to be given the opportunity to present my data on NK cell metabolism as part of the Innate Immunity Workshop at this meeting.

I hope to transition back to research in Australasia region after I finish my postdoctoral training in Hamburg, so it was invaluable to be able to reintroduce myself to research and researchers from New Zealand and Australia, both those at the ASI meeting and the labs I visited. I am very appreciative of the opportunity I was given and look forward to what the future brings.

# ITA RECIPIENT – LIAM JAMES O'BRIEN

AMERICAN ASSOCIATION OF CANCER RESEARCH (AACR) SPECIAL CONFERENCE ON TUMOUR IMMUNOLOGY AND IMMUNOTHERAPY IN BOSTON, MA.

Supervisor: A/Prof Kristen Radford: kristen.radford@mater.uq.edu.au

liam.obrien@mater.uq.edu.au @ljobrien\_

I am a 2nd year PhD student in A/Prof Kristen Radford's lab within the Translational Research Institute in Brisbane, QLD. In the past Kristen identified human Type 1 conventional Dendritic Cells (cDC1s) as the counterparts to murine cDC1s which are indispensable for the generation of anti-tumour immunity in several mouse tumour models. Our lab focuses on further functional characterization of human cDC1, as well as novel methods to target these cells to enhance anti-tumour immunity.

In 2017, I created a mouse model bearing a human immune system (humanized mouse) where cDC1s could be targeted and studied in the context of

We have hopes of establishing a core facility so that researchers within Australia will have access to affordable humanized mouse and Patient Derived Xenograft (PDX) models to expedite the transition of novel effective therapies to the clinic.



MYSELF AND MARK WUNDERLICH (RIGHT) AT THE CINCINNATI CHILDREN'S HOSPITAL AND MEDICAL CENTER. MARK IS A PIONEER OF HUMANIZED AND PDX MOUSE MODELS FOR THE STUDY OF ACUTE LEUKEMIA. TWO DAYS' WORTH OF CONVERSATIONS WITH MARK HAVE SAVED ME MONTHS OF WORK.

human melanoma. The demand for humanized mouse models such as this amongst the local research community surprised us and we soon found ourselves preparing humanized mice for several research groups in addition to our own experiments. Our capacity continues to grow, and as such, we are constantly refining protocols and adding new techniques to our arsenal. We have hopes of establishing a core facility so that researchers within Australia will have access to affordable humanized mouse and



SAMPLES OF PERIPHERAL BLOOD DRAWN FROM 150 HUMANIZED MICE BEARING PATIENT-DERIVED TUMOURS AT THE UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL. EACH OF THESE MICE CURRENTLY COST AROUND \$1000USD TO MAKE, BUT THE VALUE THEY BRING TO IMMUNOLOGICAL STUDIES IS INTANGIBLE.

I was able to garner invaluable advice pertaining to my own PhD project (creating a humanized mouse model of Acute Myeloid Leukemia) ... but was also directly exposed to the inner workings of humanized/PDX mouse facilities which produce hundreds of mice per week to service thriving research communities.

#### Patient Derived Xenograft (PDX) models to expedite the transition of novel effective therapies to the clinic.

During my recent trip overseas, I visited 3 established humanized mouse core facilities on the east coast of the USA in addition to attending an American Association of Cancer Research (AACR) Special Conference on tumour immunology and immunotherapy in Boston, MA. I was able to garner invaluable advice pertaining to my own PhD project (creating a humanized mouse model of Acute Myeloid Leukemia) from several leading researchers in the haematological malignancy field, but was also

directly exposed to the inner workings of humanized/PDX mouse facilities which produce hundreds of mice per week to service thriving research communities.

I have brought back with me the step-by-step protocols relating to human stem cell isolation and



MY POSTER (CLOSEST RIGHT) GENERATED PLENTY OF INTEREST AT THE AACR SPECIAL CONFERENCE ON TUMOUR IMMUNOLOGY AND IMMUNOTHERAPY.

effective implantation, as well as a wealth of knowledge pertaining to the advantages and limitations of several immunodeficient mouse strains for studies of different cell types within an engrafted human immune system. This award has not only assisted me in making connections for my own



THE AACR SPECIAL MEETING ON TUMOUR IMMUNOLOGY AND IMMUNOTHERAPY HOSTED A WIDE RANGE OF PRESENTATIONS. CUTTING-EDGE IMAGING TECHNIQUES TO VISUALIZE CLINICAL RESPONSE TO IMMUNOTHERAPIES OVER TIME, THE IMPACT OF THE GUT MICROBIOME AND DIET ON ANTI-TUMOUR IMMUNITY, AND THE ROLE OF ARTIFICIAL INTELLIGENCE IN PATHOLOGY AND SELECTION OF IMMUNOTHERAPIES WERE AMONG THOSE COVERED.

career; it has contributed to our budding core facility which will have a flow-on effect to benefit researchers around Australia.

### Humanized mouse facilities I visited:

 University of Pennsylvania Stem Cell and Xenograft Core <u>https://www.med.upenn.edu/</u> <u>scxc/</u>

Host: Gwenn Danet-Desnoyers PhD, Tony Secreto  Cincinnati Children's Hospital and Medical Center, Experimental Haematology and Cancer Biology <u>https://www. cincinnatichildrens.org/</u> <u>research/divisions/e/ex-hem/</u> <u>labs/mulloy/lab-members</u>

Host: Mark Wunderlich

 University of Massachusetts Medical School, Program in Molecular Medicine https://www.umassmed.edu/ dcoe/

Host: Michael Brehm, PhD 🔳

This award has not only assisted me in making connections for my own career; it has contributed to our budding core facility which will have a flow-on effect to benefit researchers around Australia.



### **ITA RECIPIENT – XIAOXIAO JIA** 17th International congress of immunology

Supervisor: Katherine Kedzierska, Peter Doherty Institute for Infection and Immunity, University of Melbourne

Xiaoxiaoj1@student.unimelb.edu.au



PRESENTING MY WORK AT ICI 2019 BEIJING

I am a 3rd year PhD student at the Peter Doherty Institute for Infection and Immunity, University of Melbourne. I finished my Master degree in Institute of Microbiology, Chinese Academy of Sciences in late 2016 and came to Australia to pursue my

I finished my Master degree in Institute of Microbiology, Chinese Academy of Sciences in late 2016 and came to Australia to pursue my PhD in Professor Kedzierska's Iaboratory in 2017. PhD in Professor Kedzierska's laboratory in 2017. My supervisor Prof. Katherine Kedzierska is the Head of the Human T Cell Laboratory in the Department of Microbiology and Immunology and a NHMRC Senior Research Fellow Level B. Our laboratory focuses on the immunity to viral infections, especially the newly emerged influenza viruses. Our basic research across both mouse and human experiments to understand universal CD8+ T cell immunity to influenza viruses in high risk groups including children, the elderly and Indigenous Australians.

With great support from the ASI International Travel Award, I attended the 17th International Congress of Immunology (ICI), Beijing, China. This was the largest conference I have been to, with more than 6000 attendees from 80 countries and covering a wide range of topics. Apart from receiving great feedback with many fantastic suggestions

#### 2019 INTERNATIONAL TRAVEL AWARD RECIPIENT - XIAOXIAO JIA



I was also be able to network and meet researchers working on studies in similar areas across different countries, which was an incredible experience for me.

MAKING MANY NEW FRIENDS AND COLLABORATORS AT ICI 2019.

With great support from the ASI International Travel Award, I attended the 17th International Congress of Immunology (ICI), Beijing, China. This was the largest conference I have been to, with more than 6000 attendees from 80 countries and covering a wide range of topics.

for my project following my oral presentation (Expression of CD38 and MHCII on CD8+ T cells following severe influenza virus infection) at the conference, I was also be able to network and meet researchers working on studies in similar areas across different countries. which was an incredible experience for me. I would like to thank ASI again for offering me the Travel Award for this conference that greatly supported my PhD study as well as established new networks and collaborations.

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Du Pré et al. (2020). B cell tolerance and antibody production to the celiac disease autoantigen transglutaminase 2. J Exp Med. doi: 10.1084/jem.20190860.

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Strauss et al. (2020). Targeted deletion of PD-1 in myeloid cells induces antitumor immunity. Sci Immunol. doi: 10.1126/sciimmunol.aay1863.



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Boudreau et al. (2019). Selective induction of antibody effector functional responses using MF59-adjuvanted vaccination. The Journal of Clinical Investigation. doi: 10.1172/JCI129520

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Khoo et al. Liquid biopsy for minimal residual disease detection in leukemia using a portable blast cell biochip. Nature Precision Oncology. doi: 10.1038/s41698-019-0102-5

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Hsieh et al. (2019). The Prognostic Value of Circulating Tumor Cells in Asian Neuroendocrine Tumors. Nature Scientific Reports. doi: 10.1038/s41598-019-56539-z



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Tran et al. 2019 (2019). Flagellin-elicited adaptive immunity suppresses flagellated microbiota and vaccinates against chronic inflammatory diseases. Nature Communications. doi: 10.1038/s41467-019-13538-y

MyBiosource Human Nesprin 1 ELISA kit and Human Zyxin ELISA (<u>https://www.mybiosource.com/nesp1-human-elisa-kits/nesprin-1/69874</u>)

Nguyen, B.T., Pyun, J., Lee, S. et al. Identification of new binding proteins of focal adhesion kinase using immunoprecipitation and mass spectrometry. Sci Rep 9, 12908 (2019).

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It is a broadly based Society. embracing clinical and experimental, cellular and molecular immunology in humans and animals. The ASI 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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