

# ASI NEWS DECEMBER 2019



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### 29 **49TH ASI ANNUAL** MEETING & BEST ASI POSTER HIGHLIGHT AUCKI AND NEW ZEALAND

### CONTACT US

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Australian and New Zealand SOCIETY FOR IMMUNOLOGY INC.

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# 2019 JARED PURTON AWARD RECIPIENT

Ali Zaid, Early Career **Research Leader** 



### ASI ITA: EUROPEAN CELL DEATH ORGANIZATION MEETING

Georgia Atkin-Smith

### THE WEEK AFTER THANKSGIVING

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

Some friends from the States were recounting to me their thanksgiving celebrations that happened about two weeks ago. After doing a bit of reading, I was intrigued with trivia on how this particular day was instated.

Thanksgiving Day – some say it is a religious intervention, but in truth it holds much more than a tradition. It is history and it is now. Perhaps it is the foundation of society itself. The idea of thanksgiving is deeply rooted into promoting wellbeing, peace and unity of any given society, including our own.

The idea of thanksgiving is deeply rooted into the promoting wellbeing, peace and unity of any given society, including our own. If I were to redefine this in scientific terms, "Thanksgiving" is a time to remind ourselves the effort we have put into improving healthcare and medicine as member of a medical research community.

"Thanksgiving" is a time to encourage and recognise each other's achievements throughout the year. It is a time to let go of the lows, to refocus, and to celebrate the steps we have taken – be it big or small – in overcoming obstacles that came our way over the course of 2019.

As a tradition for our friends from the north, distant families and friends gather in a rare occasion to celebrate with roast turkey and make peace over pumpkin pie. As for being an *immunologist* and member of ASI from the south, we too are thankful for the opportunity to belong and gather with our fellow colleagues in the wider Australasian region, a community that unites people of every background, culture and orientation. One of these diverse opportunities is to be a delegate at ASI meetings.

As for being an immunologist and member of ASI from the south, we too take pride in the opportunity to belong and gather with our fellow colleagues in the wider Australasian region, a community that unites people of every background, culture and orientation



By the time this newsletter is published, the 48th Annual Meeting in Adelaide has just concluded. It was encouraging to see our members interacting with exhibitors and colleagues at this annual meeting, sharing a good beer over scientific discoveries and a good laugh over the Lafferty Debate. After all, it is not the roast or the pie that defines Thanksgiving but the members of a community with a common goal, who have gathered to share knowledge in a collaborative and very Australasian way.

It is in occasions like these that I am particularly thankful for the opportunities and new initiatives ASI has put forward this year. If you missed out on this year's ASI meeting in Adelaide – don't worry – the **2020 ASI meeting** will be held on **29<sup>th</sup>November to 3<sup>rd</sup> December, Auckland, New Zealand**. Save the dates now and stay updated with what's happening on our <u>ASI meeting</u>. webpage!

The opportunity to deliver and archive key initiatives for ASI, particularly on the efforts to support career development and improve diversity and equity for our memberships, has been one of the highlights of my role as newsletter editor. Earlier this year, the official name change of ASI highlighted the unification and recognition of

The opportunity to deliver and archive key initiatives for ASI, particularly on the efforts to support career development and improve diversity and equity for our memberships, had been one of the highlights of my role as newsletter editor. It is my pleasure to conclude 2019 with this December newsletter. I look forward to hearing more interesting stories and exciting news in 2020!

strong collaboration between our Australian and New Zealand researchers within our community. The establishment of a new <u>Women Speakers</u> <u>Database</u>, the new <u>ASI website</u>, new benefits for members to publish in <u>ASI journals ICB and</u> <u>CTI</u> – these are all proof of what a productive and fruitful year 2019 has been.

It is especially exciting to see many new initiatives designed to support career development during the year of 2019, including the Margaret Baird Award and it certinly doesn't end here. There are already plenty more to come in 2020 that I can't wait to tell you in the next newsletter.

In this issue, I am particularly delighted to feature our 2019 <u>Jared Purton Award</u> recipient, Ali Zaid, who really demonstrated how ASI seeks to provide support for early career researchers in ways beyond mere travelexpenditure. We take this chance to remember Jared Purton and his legacy, and thank you again to Jared's parents for donating the prize money to support our ASI members and immunology research.

It is my pleasure to conclude 2019 with this December newsletter. I look forward to hearing more interesting stories and exciting news in 2020!

ASI newsletter is a portal to share inspiring and exciting news with our members. I am always open to receive member submissions for the ASI newsletter. If you have some great ideas and stories that would be of interest to the ASI community, please reach out to newsletter@immunology.org.au.

With this, I wish you all a safe and lovely Christmas break and a very New Year!

Have a safe and enjoyable festive season ! See you all in 2020!



# Clinical & Translational Immunology

### Impact Factor 7.271

# Cutting-edge advances in biomedical research

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* 

Clinical & Translational Immunology



Submit your next manuscript to *Clinical & Translational Immunology* and enjoy these benefits of publishing with Wiley



Find out more at www.wileyonlinelibrary.com/journal/cti

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# **Clinical & Translational Immunology**

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



#### CTI Special Feature on Endoplasmic Reticulum and Oxidative Stress in Immunopathology

Special Feature Coordinator: Sumaira Z Hasnain

Endoplasmic reticulum (ER) stress and related molecular programs, which occur when proteins misfold during biosynthesis in the ER, are important components of the pathophysiology of several diseases including cancer, diabetes, inflammatory bowel disease and multiple forms of respiratory inflammation. Despite this, our understanding of the molecular programs that regulate ER stress, ER-associated degradation pathways, oxidative stress and the unfolded protein response are limited. In this Special Feature of Clinical & Translational *Immunology*, we highlight the complex relationship between cellular stress pathways and inflammation and the potential strategies that could pave the way for specific drugs designed to improve protein folding, manipulate the unfolded protein response to reduce inflammation and restore homeostasis.

(July 2018)



#### **CTI Special Feature on Genome-wide Association Studies and Immunity**

#### Special Feature Coordinator: Manuel Ferreira

This Special Feature of Clinical & Translational Immunology marks 10 years since genome-wide association studies (GWAS) were first applied to immune-related diseases. The five reviews cover findings from ankylosing spondylitis, asthma, Crohn's disease, multiple sclerosis and type-1 diabetes. Topics covered include a summary of genetic associations reported to date, the likely target genes underlying those associations, novel insights into disease aetiology, and challenges and opportunities that will shape our field in the next 10 years.

(June 2018)



#### **CTI Special Feature on Microbiota and immune cell crosstalk:** dialogues across health and disease

#### Special Feature Coordinator: Erika Duan

The therapeutic potential of correcting microbiota dysbiosis has galvanised researchers and clinicians alike. Immune cells can selectively sense and eliminate microbial species, interact within a local microenvironment and migrate into the periphery or distal organs following co-ordinated activation. This renders them as prime candidates in the endeavour to understand how a localised microbiome can broadly influence organism health and disease susceptibility. Specific commensal microbes can induce tolerogenic or tissue reparative immune cells to maintain organ health, whilst unintentional microbe translocation can initiate disease pathology. Critically, bi-directional communication exists as certain immune cell products can sequester microbial species. Since immune cell contributions to acute and chronic diseases are extensively studied, insight into the mechanisms of immune cell and microbiota crosstalk may provide new leads in the development of superior therapeutic agents. In this Special Feature of Clinical & Translational Immunology, we present four reviews which address and summarise the evidence for immune cell and microbiota crosstalk during different acute and chronic diseases.

(May 2018)



#### **CTI Special Feature on Regulatory T cell heterogeneity**

Special Feature Coordinators: Ajithkumar Vasanthakumar and Kirsten Ward Hartstonge

Distinguishing self from non-self is a unique feature of the immune system. While negative selection rigorously eliminates auto-reactive T cells, the few cells that escape could trigger severe auto-immune responses. Regulatory T cells (Tregs) however, keep these auto-reactive T cells and other inflammatory T cells in check to preserve immune homeostasis. Paucity of Tregs leads to fatal autoimmunity in both mice and humans. While most Tregs develop in the thymus, they adapt and populate multiple lymphoid and non-lymphoid tissues. Besides suppressing auto-reactive T cells, Tregs also perform non-canonical functions, which include tissue repair and regulation of organismal metabolism. Tregs therefore are heterogeneous in their tissue localization and function. A small fraction of Tregs that differentiate from conventional CD4+ T cells in the periphery further adds to this heterogeneity. In this special feature, we have collated reviews from experts to highlight Treg cell heterogeneity from the perspective of their origin, phenotype, tissue localization, function and the complexity in regulation of these features.

(March 2018)

#### Start reading at www.wileyonlinelibrary.com/journal/cti



### **2018 CTI PUBLICATION OF THE YEAR AWARD**

Contemporary analysis of functional immune recovery to opportunistic and vaccine-preventable infections after allogeneic haemopoietic stem cell transplantation.

De Silva et al, (2018), Oct 5:7(10):e1050. doi: 10.1002/cti2.1040

### Clinical & Translational Immunology



Harini De Silva (First author)

#### Biosketch

This work examines the timing of functional immune recovery in patients who undergo allogeneic stem cell transplantation in the current era. It is a proof of concept study demonstrating that functional immune recovery to common opportunistic and vaccine preventable infections can be measured using CD4+ T cell counts, pathogen-specific T cell responses and cytokine profiles.

Once validated in larger cohorts, these assays have potential to be utilised as biomarkers for infection risk prediction in the posttransplantation stage.

The work was carried out at the Burnet Institute and Department of Infectious Disease, Central

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#### The work was carried out at the Burnet Institute and Department of Infectious Disease, Central Clinical School, Monash University.

Australian and New Zealand

Clinical School, Monash University. Harini now works at the Human Immunology Translational Research Laboratory, Cancer Immunology Research, Peter MacCallum Cancer Centre. Her current work focuses on identifying biomarkers that predict treatment response to immunotherapy in cancer patients using clinical trial samples from multiple tumour streams.

# THE IUIS CORNER

J. ALEJANDRO LOPEZ<sup>1</sup>, SUSANNE HEINZEL, MENNO VAN ZELM AND FARZI KORDBACHEH <sup>1</sup>IUIS Representative of ASI <u>alejandro.lopez@qimrberghofer.edu.au</u>





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 and/or register for the Newsletter through this link here.

You can also follow IUIS activities on Twitter: <u>https://</u> twitter.com/iuis\_online

And/or Facebook: <u>https://</u> www.facebook.com/ IUISorg/

From October 19 to 23, the 17th International Congress of Immunology (IUIS 2019) took place in Beijing. During this occasion, the IUIS council met for its 68th and 69th meetings. The General Assembly (GA) of the IUIS gathered before the conference and following the council meeting to participate in the election of a new IUIS council.

The Australian and New Zealand Society for Immunology (ASI) is a member of the IUIS and as such entitled to voting members of the GA. Currently ASI provides 4 members to the GA. ASI is represented on the 2016-2019 IUIS council by current council member of IUIS Alejandro Lopez

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#### 17th International Congress of Immunology IUIS 2019

Chaired by Xuetao Cao, the meeting gathered a record number of over 6500 participants, from 80 countries and regions, received 3,757 abstracts with 416 abstracts selected as Oral Presentations, and 2,754 abstracts selected as Poster Presentations. It had a major representation of Chinese participants (4984) fulfilling the purpose of the



MASSIVE MULTIFUNCTIONAL VENUE LOCATED IN THE OLYMPIC PARK AREA OF BEIJING.

#### ASI NEWSLETTER DECEMBER 2019

meetings to bring Immunology closer to the hosting regions. The Scientific program included 12 Major Symposia, 52 symposia/ workshops, 671 speakers (47% women) and 9 keynote speakers, including 3 Nobel laurates, one of which was our own Peter Doherty.

Following the success of the previous International Congress in Melbourne in 2016 hosted by the ASI, there was a significant Australian contingent (7th most represented country) both in the participants as well as the Faculty. This reflects the growing tight ties between Australian researchers and Chinese institutions significantly boosted by the meeting.

The congress seized the opportunity to highlight the rapidly increasing development of Immunology in China through trade displays by exhibitors during the scientific meeting. Most of the 80 exhibitors highlighted their significant presence in China and often targeted their presentations at the local audience. The meeting was reported to have collected \$1,200,000 USD in sponsorship and generated over 3 million dollars income.

Applied Immunology had a central place in the scientific program and was supported by a very solid funding position and a well-organised clinical backing available to the organising committee. The scientific program was designed to give ample opportunity for delegates to learn about the fast and enormous potential for the development of Immunology in China. This represented a great opportunity for Immunologists from the rest of the world to establish interactions and collaborations globally.

A link to the abstract book for the meeting can be found in the following link: <u>ICI2019 abstract</u> <u>booklet</u>.



WELL OILED TECHNOLOGY ALLOWED FOR THE COMFORTABLE VIEWING OF PRESENTATIONS ALSO IN OVERCROWDED VENUES HOSTING RECORD AUDIENCES.



EXTRAORDINARY CULTURAL DISPLAY MATCHING A UNIQUE SAMPLE OF CHINESE DELICACIES AT THE FACULTY DINNER ORGANISED AT THE CULINARY MUSEUM OF CHINA.

#### 18th October, 2019 68th IUIS Council Meeting

The Council meeting was attended by the Executive Committee (ExCo) (5 members); 16 members of the Council representing the 78 member societies; 10 chairs of the special committees; representatives of the 4 regional federations; representatives of the IUIS Congresses 2019, 2022 and bidders for 2025; and officers of the IUIS Central (K.I.T. from Berlin). ASI was well represented by Executive Secretary-General Roslyn Kemp, Nomenclature Committee Chair Menno van Zelm and Council member J. Alejandro Lopez.

The highlights of the Council meeting included:

 Selection of the host for the IUIS 2025. From bidders Toronto, Paris and Vienna, and following two rounds voting, Vienna was chosen. The three bids and presentations were very strong, all highlighting very high feasibility and Immunology standing as well as easy access. The successful bid of the Austrian Society for Allergology and Immunology (ÖGAI) highlighted the central location in Europe with the enhanced capacity to attract participants from emerging Immunological societies in Eastern Europe, a

relative low cost, sponsorships for scholarship for participants from emerging societies in other continents, and the emphasis on student and budget accommodation.

- Approval to renew the contract with K.I.T. Group from Berlin, for Association Management Company (AMC) and Professional Congress Organizer (PCO) who will continue to coordinate the IUIS Congresses.
- Acceptance of the new member society, Pakistan Society of Immunology

#### 19th October, 2019 17th IUIS General Assembly

As a member society of the IUIS with more than 1000 members, ASI is entitled to 4 voting members on the GA. The ASI representatives on the GA 2019-2022 are Susanne Heinzel, Farzaneh Kordbacheh, Menno van Zelm and J Alejandro Lopez.

In addition to ratification of the proposals originated from the 68th council meeting, the highlighted task for the GA was the election for the new 2019-2022 IUIS Council.

Following a two-round voting, Miriam Merad (USA) was elected as the new vice-president. The campaign of ASI candidate Jose Villadangos (Australia) for this position was unsuccessful. Our very own ASI candidate Roslyn Kemp (New Zealand) was reelected as Secretary General with a confident majority, highlighting the wide recognition for her significant contribution to IUIS during her first term in office. Michael Ratcliffe (Canada) was re-elected unopposed for the position of Treasurer. The new IUIS president Faith Osier (Kenya) and the most recent successes of Miriam Merad and Roslyn Kemp on the executive team represent 3 women out of 5 members,



ASI REPRESENTATIVES TO THE IUIS GA, FROM RIGHT TO LEFT, FARZI KORDBACHEH (CANBERRA), MENNO VAN ZELM (MELBOURNE) SUSANNE HEINZEL (MELBOURNE) AND J. ALEJANDRO LOPEZ (BRISBANE)

marking a historic turn for the IUIS Executive Committees. This is a record representation of women on the IUIS Council and reflects the renewed emphasis of IUIS towards gender equality. This trend was reinforced as a policy in all current and future activities of IUIS. In addition, other members of the Council were elected, including the re-election of J. Alejandro Lopez (Brisbane), ASI supported candidate.

#### 20th October, 2019 69th IUIS Council Meeting

The newly elected Council met for its first meeting under the direction of incoming President Faith Osier who highlighted her agenda (and that of the Council) for the next 3 years around these key aspects:

• Equity in Gender and Diversity: "Including everyone makes us stronger"

The new Council delivered the award for the Best International Day of Immunology Campaign and this year, the winner was the Australian and New Zealand Society for Immunology (ASI).

- Building Immunologists: "Train and support upcoming scientists, Leave a Legacy"
- Community Resources: "Share Tools, Knowledge & Knowhow... No WoMan is an Island"
- Advocacy: "Speak up for What is Right"; e.g. #VaccinesWork; Embrace Social Media"
- Frontiers in Immunology, the Official Journal of the IUIS

The new Council delivered the award for the Best International Day of Immunology Campaign and this year, the winner was the Australian and New Zealand Society for Immunology (ASI).

- 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)
  - 2025, Vienna, Austria, August
     17th 22nd. ■

### ASI WINS THE IUIS BEST 2019 INTERNATIONAL DAY OF IMMUNOLOGY CAMPAIGN AWARD

GABRIELA KHOURY, DoI and Social Media Coordinator gabriela.khoury1@gmail.com

Our fantastic events held around Australia and New Zealand would not be made possible without our enthusiastic local organising committees, the invited speakers, tour guides, workshop demonstrators and everyone in between!

Thank you all for sharing your dedication to science outreach and promoting immunology to the public during April and May.



VICTORIAN COMMITTEE MEMBERS (L TO R). FRONT: DR NICOLE MESSINA, DR DARRYL JOHNSON, DR GABRIELA KHOURY (CHAIR), CATRIONA NGUYEN-ROBERTSON. BACK: SCOTT REDDIEX, DR CHRIS HARPUR, DR CHRISTOPHE MACRI, DR DAN PELLICCI. ABSENT: DR MARIA DEMARIA (SECRETARY), DR RHEA LONGLEY, DR ERIKA DUAN, DR TIM GOTTSCHALK, DR JESSICA BORGER, DR HUI FERN KOAY, DR CATARINA ALMEIDA, ANNABELLE BLUM, KAYLA WILSON, A/PROF SCOTT MUELLER. PHOTO CREDIT: HYNESITE PHOTOGRAPHY We have had an incredibly successful Day of Immunology in 2019 with a huge reach to the public and school students, plus plenty of media coverage too.

Check out the statistics below and you can view the location of our events and the distribution of the scientific education outreach via this interactive Google Map <u>(click here)</u>.

Thank you all for sharing your dedication to science outreach and promoting immunology to the public during April and May.

I would also like to acknowledge all of the <u>participating institutes</u> and <u>sponsors</u> who have contributed funds and resources to our events.

We welcome 2020 contributors so please <u>email me</u> if you'd like to help make 2020 even bigger and better. ■

## **NEWS FROM FIMSA**

JOANNA GROOM, FIMSA Representative groom@wehi.edu.au



F<sup>I</sup>

FINSA Federation of Immunological Societies of Asia-Oceania

The end of 2019 has been a busy time for Immunologists in the

#### IUIS-IIS-FIMSA Course, India

Asian-Oceanic region.

The FIMSA training course in "Basic and Advanced Translational Immunology" took place in Jaipur, India 12-16th October 2019. This course brought together 103 delegates from 5 countries (India, Iran, Tunisia, Ethiopia, Australia) with 18 states of India represented. Over 80% of delegates received travel funding to attend. Jaipur is a beautiful and vibrant city. Those old 'Pink City' has just been given entry into the UNESCO World Heritage Site list due its spectacular architecture and sandstone buildings.

The meeting began with course convenor, Narinder Mehra providing a historical perspective of the origins of FIMSA. Our federation was first conceived to assist in a bid from Indian Immunology Society to be the first developing nation to host IUIS congress. It was interesting to hear the Australian contributions at It was interesting to hear the Australian contributions at this early stage, with enthusiastic support provided by Gus Nossal and the first training course taking place in Australia in 1995, which was followed by the inaugural FIMSA congress, in Adelaide 1996.



THE UNESCO WORLD HERITAGE LISTED "PINK CITY" OF JAIPUR.



FIMSA TRAINING COURSE FACULTY AND DELEGATES, JAIPUR, INDIA.

this early stage, with enthusiastic support provided by Gus Nossal and the first training course taking place in Australia in 1995, which was followed by the inaugural FIMSA congress, in Adelaide 1996. The foundation played a critical role in facilitating the success of IUIS in New Delhi in 1998. Since these early days, FIMSA has gone from strength to strength and now holds a congress every three years and training course held the non-congress years.

The congress featured Indian and international faculty. ASI was well represented in Jaipur. Along with myself, Gabrielle Belz (WEHI, Victoria) also attended as faculty. Fern Koay (PDI, Victoria) received funding of a FIMSA ECR scholarship to attend as a delegate.

#### FIMSA Council Meeting, Beijing

FIMSA held its 2019 council meeting at the IUIS congress in Beijing, China. The council meeting featured the awarding of FIMSA travel recipients for IUIS 2019, presentation of FIMSA councillor certificates and reports from the President, Secretary General and Treasurer.

As head of the FIMSA Policy committee (which also consists of councillors from China, Japan, India, and Taiwan), I put forward new policy documents for comment. These documents covered FIMSA council member responsibilities, FIMSA financial policy, travel award policy and new gender equity speaker policy. We are currently taking comments from all FIMSA councillors on these documents, prior to their acceptance.

Knowing that gender equity is a priority for ASI members, I was happy to report ASI's recent developments and continue to promote gender equity in our region. In addition to a new gender equity speaker policy, the



ASI REPRESENTED IN JAIPUR - FERN KOAY, JOANNA GROOM, GABRIELLE BELZ (LEFT TO RIGHT).



2019 FIMSA COUNCIL FROM THE BEIJING MEETING

addition of a <u>Women speakers</u> <u>database</u> (inspired by and similar to that of ASI) was approved by the council. This database will be used to select women speakers and chairs for international conferences and will be hosted on the FIMSA website. I will update ASI members on the developments of this database in 2020.

Further, I highlighted the ASI's name change to the FIMSA council.

#### FIMSA events- 2020 and beyond.

The council meeting also provided updates for the upcoming FIMSA

courses. Next year's Advanced Immunology Course will be held in December 2020. This will be the first FIMSA course held in Japan and will take place in Chiba. This will coincide with the next FIMSA council meeting. There will be a call for travel support for 10 FIMSA participants to attend this meeting. The next FIMSA congress is to be held in Korea in 2021, followed by Taiwan in 2024.

A full summary from the FIMSA council meeting, along with details of upcoming meetings can be found on the new FIMSA. org website linked <u>here</u>.

## **WOMEN'S INITIATIVE NEWS**

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



By the time this newsletter comes out, the 2019 ASI Annual Meeting in Adelaide will have just finished.

In our next Women's Initiative column, we will profile a few of the great outcomes from this meeting- our Travel Award winners, the inaugural Margaret Baird Award winner, the Women's Initiative Morning Tea: "Active for Equity" with Prof Karen Farquharson. But in this column, I wanted to pass on a resource that the Women's Initiative made for the Annual Meeting.

#### **The ASI Gender Equity Toolkit**

For the Women's Initiative Morning Tea: "Active for Equity" session, Prof Farquharson and I developed the "Gender Equity Toolkit".

The Toolkit document aims to provide basic information and resources around gender equity in STEM in Australia and Aotearoa/ New Zealand. It also outlines some key actions that everyone can take to support gender equity, diversity and inclusion in our professional community, in our workplaces and in the broader community. If you find it helpful- print it out, share it with your colleagues, post it up at work. We'd be really happy if it helps you and your colleagues to reflect on your diversity practices, to think about "what am I doing

well" and "what could I be doing better".

So for those of you who came to the Women's Initiative Morning Tea: "Active for Equity" session at the Annual Meeting – thanks so much for joining us - and for those that couldn't join this time around, we hope to see you at next year's session in Auckland!;) ■

We'd be really happy if it helps you and your colleagues to reflect on your diversity practices, to think about "what am I doing well" and "what could I be doing better".



#### What can I do?

- 1. Be aware of your unconscious biases.
- 2. Be open to doing things differently.
- 3. Listen to others' experiences- it takes courage for people to voice concerns.
- 4. Be active in promoting women and be especially mindful of intersectionality.

#### Being active includes things like:

Mentoring: - Volunteer for mentoring schemes. - Look for opportunities to sponsor folks.

#### Amplifying:

- Broadcast your colleagues' achievements. - Nominate folks for awards, panels, talks,
- boards, jobs, etc.

#### Being inclusive:

- Welcome others into your conversations in professional and social situations.
- Be respectful of others' boundaries.
- Advocating for equity in the workplace: Support carers and flexible working for
- both women and men. Be an advocate and amplify folks from under-represented groups in meetings.
- And if you see others acting inappropriately

or displaying bias: - Have a conversation with them if you

- feel able to, or,
- Report behaviour for more serious issues.

With thanks to the ASI Executive and the WEHI for their support

## **PRIDE FROM DOWN UNDER**

JACQUES MILLER RECEIVES 2019 LASKER AWARD

#### Angelica Lau, Newsletter Editor <u>newsletter@immunology.org.au</u>

Acknowledgements: Reproduced with permission from the Lasker Foundation, Rubenstein Communications, Inc. Photography courtesy of Lasker Foundation

On September 10, the Lasker Foundation honoured one of our very own Australian Immunologist, Jacques Miller from the Walter and Eliza Hall Institute of Medical Research, along with fellow scientist Max D. Cooper from Emory University, who identified and defined the function of B and T cells, uncovering the organising principle of the adaptive immune response.

The adaptive immune system has a unique ability to "remember" specific pathogens and other abnormal cells in the body that it has once encountered and eliminates them. Miller showed that the thymus, previously thought to be a vestigial organ, is essential for immune function. Cooper then demonstrated that there are two distinct cell lineages in the adaptive immune system: B cells and T cells. Working with chickens, he showed that an avian organ called the bursa of Fabricius is the site where B cells mature and characterized the different stages of B cell development. Miller established that interactions between B and T cells are essential to their normal maturation and function. Later, Cooper and colleagues showed that, in mammals, B cells are



JACQUES MILLER AT THE LASKER AWARD CEREMONY (PHOTO BY: LASKER FOUNDATION, KATE MILFORD)

generated in the liver of the fetus and the bone marrow after birth. These seminal discoveries defined the field of adaptive immunity and serve as the building blocks for current immunology research and clinical advances.

Other recipients include **H. Michael Shepard**, formerly of Genentech, **Dennis J. Slamon** from the University of California, Los Angeles and **Axel Ullrich** from the Max Planck Institute of Biochemistry (also formerly of On September 10, the Lasker Foundation honoured one of our very own Australian Immunologist, Jacques Miller from the Walter and Eliza Hall Institute of Medical Research, along with fellow scientist Max D. Cooper from Emory University, who identified and defined the function of B and T cells, uncovering the organising principle of the adaptive immune response.

#### **PRIDE FROM DOWN UNDER**



JACQUES MILLER RECEIVES THE PRESTIGIOUS LASKER PRIZE ALONG WITH MAX D. COOPER ON THEIR DISCOVERY OF B AND T CELLS. (PHOTO BY: LASKER FOUNDATION, KATE MILFORD).



JACQUES MILLER ADDRESSING THE ASSEMBLY DURING DINNER CELEBRATION (PHOTO BY: LASKER FOUNDATION, KATE MILFORD)

The ASI congratulates Jacques Miller for his outstanding contribution to the field of Immunology globally. We hope his example will be an inspiration to all basic and clinical immunology researchers, particularly to members of ASI. We endeavour to honour many more outstanding Australian and New Zealand Immunologists in the future.

Genentech) honoured with the Lasker~DeBakey Clinical Medical Research Award; and **Gavi, the Vaccine Alliance** awarded the Lasker~Bloomberg Public Service Award. Widely regarded as America's top biomedical research prize, the Lasker Awards carry an honorarium of \$250,000 for each category.

The ASI congratulates Jacques Miller for his outstanding contribution to the field of Immunology globally. We hope his example will be an inspiration to all basic and clinical immunology researchers, particularly to the members of ASI. We endeavour to honour many more outstanding Australian and New Zealand Immunologists in the future. ■

About the Lasker Foundation: Established in 1942 by Albert and Mary Lasker, the Foundation is committed to inspiring robust and sustained support for biomedical research, fueled by Mary Lasker's call to action: "If you think research is expensive, try disease!"

About the Lasker Awards: For 74 years, the Lasker Awards, America's most prestigious biomedical research awards, have recognized the contributions of leaders who made major advances in the understanding, diagnosis, treatment, cure, or prevention of human disease. Additional information on the Foundation are available at <u>www.laskerfoundation.org</u>. Follow the Awards on Facebook and Twitter.

#### ASI NEWSLETTER DECEMBER 2019

## **2019 JARED PURTON AWARD RECIPIENT**

ALI ZAID, Early Career Research Leader, Menzies Health Institute Queensland, Griffith University

a.zaid@griffith.edu.au @DrAliZaid (Twitter)



I'm a viral immunologist who works on inflammation caused by mosquito-borne viruses at the Menzies Health Institute Queensland at Griffith University on the Gold Coast. I applied for the Jared Purton award after returning from the 4th Inflammation congress of the Brazilian Society of Inflammation in 2018. There, I presented my earlier work (1) on skin-resident memory T cells (TRM) and showed how I used intravital multiphoton microscopy (IVM) to tease out how TRM patrol the skin and protect against viral challenge.

After my talk, I was approached by a lab head from the University of São Paulo in Ribeirao Preto, Prof. Jose Carlos Alves Filho (or Zéca), who was very keen on using IVM in his experimental model. He was particularly interested in neutrophils and

I was approached by a lab head from the University of São Paulo in Ribeirao Preto, Prof. Jose Carlos Alves Filho (or Zéca). He was particularly interested in neutrophils and TREG in psoriasis, and was visibly eager to collaborate – and so was I, but hands-on, overseas collaborations of this kind are easier said than done.



THE WORKSHOP PARTICIPANTS FROM USP RIBEIRAO PRETO'S CENTER FOR RESEARCH ON INFLAMMATORY DISEASES (CRID) WHO TOOK THE 2-WEEK COURSE

TREG in psoriasis, and was visibly eager to collaborate – and so was I. Sure enough, his department was equipped with a 2-photon microscope, but hands-on, overseas collaborations of this kind are easier said than done. When I returned to Australia, we both went looking for ways to fund this endeavour via our respective societies and funding bodies. As it happens, most funding opportunities tend to take the shape of a travel bursary for conference attendance and registration, but the ASI's Jared Purton award appeared to be geared towards activities

that would help strengthen collaborative networks, research independence and help future career prospects.

This is when mine and Zeca's collaborative idea of an advanced imaging workshop came about: I would train people in intravital imaging, and would also setup bona fide international collaborations with researchers who specialise in inflammation biology and immunology. Because of my vested interest in inflammatory diseases caused by mosquito-borne viruses like Chikungunya, Ross River and Mayaro virus, Brazil ticked a lot

#### **2019 JARED PURTON AWARD RECIPIENT**



DR. ALI ZAID WITH STUDENTS, HUDDLED AROUND THE DEPARTMENT'S INTRAVITAL IMAGING SUITE WHILE SETTING UP A LIVE MOUSE FOR INTRAVITAL IMAGING OF NEUTROPHIL RESPONSES FOLLOWING SCIATIC NERVE INJURY

boxes as an outbreak hotspot (ready access to human/animal virus isolates, serum samples, clinical data). Therefore, I saw this plan as a series of stepping stone towards establishing long-term collaborations with a group of researchers while helping them expand their use of microscopy techniques like IVM. Shortly after I was notified of my successful Jared Purton award, Zeca's parallel application was also successful, which allowed us to set up two imaging courses in 2019.

I travelled to Ribeirão Preto in June 2019 to run a 4-day course on basic applications and to introduce participants to new techniques, and was invited to present my work at the 5th Inflammation Congress. This enabled me to gauge the terrain for future collaborations with Brazilian groups and helped me get a picture of the scientific landscape of the country, along with the challenges scientists face in different parts of Brazil, and how inter-institute collaboration within Brazil has become an essential survival mechanism in a country where research funding has been severely cut back. For our second workshop, we partnered up with Prof. Bernardo Franklin,

a Brazilian lab head and talented microscopist established at Bonn University who works on all things related to inflammation, with a soft spot for ASC specks. Thirteen PhD students were registered, and the course included theoretical lectures covering principles & applications of confocal and IVM, paired with hands-on sessions covering several aspects of primary human cell and mouse tissue imaging. Participants tried their hands at vibratome sectioning, optical tissue clearing, ex vivo organ explant and intravital imaging, along with vigorous discussions about how microscopy contributes to our understanding of biological systems.

This award helped me jumpstart a plan I had been trying to implement for years: meet scientists who want to use intravital imaging, help them do it, and build robust and mutually beneficial collaborative ties - and the JP Award was perfectly suited for this. It was most inspiring to see first-hand the amazing quality of Brazilian research despite the significant challenges local scientists face, and their resilience and resourcefulness in the face of unprecedented research funding cuts and crippling funding

uncertainty – the kind of skills that we, in Australia, are learning to appreciate in the current funding climate.

Naturally, traveling to Brazil twice this year meant a healthy double-dose of caipiriñhas, epic churrascos and choriñho. but most importantly a group of talented colleagues I can now count amongst my closest collaborators. I'm looking forward to more visits, as well as PhD co-supervision and exchanges with Brazilian researchers whose embrace openness, vitality and a welcoming nature to share ideas. These are attitudes very well-received given this year's somewhat low morale funding environment in Australian science. With this in mind. I cannot but reiterate my profound gratitude to Jared's family and how important their contribution to ASI's funding schemes was for me, and I'm looking forward to seeing more Australian scientists enjoy this opportunity in the future.

1. Park SL, Zaid A, Hor JL, Christo SN, Prier JE, Davies B, et al. Local proliferation maintains a stable pool of tissue-resident memory T cells after antiviral recall responses. Nature Immunology. 2018 Feb;19(2):183–191.



DR. BERNARDO FRANKLIN, FROM THE BONN UNIVERSITY ON SOME OF THE EARLY INTRODUCTORY LECTURES, COVERING THE FUNDAMENTALS OF CONFOCAL AND FLUORESCENCE MICROSCOPY.

# Immunology & Cell Biology

the flagship journal of the Australian and New Zealand Society for Immunology (ASI)

# 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



# **ICB UPDATES: BENEFITS TO AUTHORS**

ANNE LA FLAMME, ICB EDITOR-IN-CHIEF anne.laflamme@vuw.ac.nz



At Immunology & Cell Biology, we have been working hard to ensure that our authors receive the maximum benefits from publishing in our journal. While some of the benefits are only for ASI members, many of these benefits are for all authors. ing.

So, what are the benefits of publishing your research in ICB?

#### **Awards and Prizes**

There are a wide range of prizes and awards for our authors and for ASI members including:

- Publication of the Year
- ICB's Top 10 Publications
- ASI Social Impact Prize
- Annual ICB Cover Image
  Competition

#### 2019 Publication of the Year

The winner of this award receives a prize of \$1000 and a guaranteed talk at the annual ASI meeting, along with free registration. The runner-up receives a prize of \$500 kindly provided by ThermoFIsher Scientific. To be eligible for these awards, the first author must be an ASI member in the year of publication. Our winner for the Publication of the year and the runner-up are:



Chris and Bhama Parish ICB Publication of the Year Award Winner:

Garth Cameron et al. "Differential surface

phenotype and contextdependent reactivity of functionally diverse NKT cells" https://onlinelibrary.wiley.com/doi/ abs/10.1111/imcb.12034

Thermo Fisher Scientific Publication Award Winner



Emma de Jong et al. "Exposure to chorioamnionitis alters the monocyte transcriptional response

to the neonatal pathogen Staphylococcus epidermidis" https://onlinelibrary.wiley.com/doi/ full/10.1111/imcb.12037

#### Annual Top 10 research articles

Earlier this year, Immunology & Cell Biology published its first virtual issue, and this issue (https:// onlinelibrary.wiley.com/doi/ toc/10.1111/imcb.bestof20172018) We have just selected our top 10 research articles from July 2018 to June 2019 and will showcase them in a new virtual issue in January 2020.

celebrated the top 10 research articles published between July 2017 and June 2018. Three of these were included for oral presentation in the "Best of ICB and CTI Session" during the ASI annual scientific meeting. We have just selected our top 10 research articles from July 2018 to June 2019 and will showcase them in a new virtual issue in January 2020. Three of these will be presented during ASI2019 in Adelaide. While vou will need to wait until January 2020 for the full list of our top 10, I am pleased to announce the following research articles will be presented at ASI2019 and cordially invite you to attend this fantastic session on Wednesday, 11 December at 14:00.

Daniel Gray presenting "CARD11 is dispensable for homeostatic responses and suppressive activity of peripherally induced FOXP3 + regulatory T cells." https:// onlinelibrary.wiley.com/doi/10.1111/ imcb.12268 Jason Kelly presenting "Chronically stimulated human MAIT cells are unexpectedly potent IL-13 producers." https:// onlinelibrary.wiley.com/doi/ full/10.1111/imcb.12281

Chunni Lu presenting "Memory regulatory T cells home to the lung and control influenza A virus infection". https://onlinelibrary. wiley.com/doi/full/10.1111/imcb.12271

#### **ASI Social Impact Prize**

This year ASI proudly established the ASI Social Impact Prize to acknowledge the impact of publications in its journals. This impact is assessed through Altmetric scores, which collate the attention an article generates on news and social media, policy documents, and traditional measures such as citations and patents. The winners do not need to be ASI members, and there is no need to apply! If you have published an article in one of the peer-reviewed categories, you are instantly eligible.

This year ASI proudly established the ASI Social Impact Prize to acknowledge the impact of publications in its journals. This impact is assessed through Altmetric scores, which collate the attention an article generates on news and social media, policy documents, and traditional measures such as citations and patents.

I am pleased to announce that this year's winner of the ASI Social Impact Prize for ICB is Kathy McCoy for her special feature review on "The microbiome and immune memory formation".

#### **Cover Image Competition**

Since ICB established their new partnership with Wiley, we have held an annual Cover



SOCIAL IMPACT PRIZE WINNER FOR ICB SPECIAL FEATURE "THE MICROBIOME AND IMMUNE MEMORY FORMATION"

Image Competition to challenge ASI members to find the most exciting and relevant images to display on our cover. We call for submissions in June/July and announce the winners during the Annual General Meeting in December. The ICB editorial team selects the top image to become our standard journal cover and a second image for our Special Features. The top design winner receives \$500 and the Special Feature image, \$200. Both winners also receive eternal glory and adulation.

#### **ICB in Public Engagement**

One of the key initiatives in recent years has been to better engage our readers and the public with our science. To this end, we have introduced virtual issues, designed and presented our science in laymen's terms, and dedicated ourselves to highlight our work through social media channels.

For example, our 2019 virtual issue on Cancer Immunotherapies (https://onlinelibrary.wiley.com/doi/ toc/10.1111/(ISSN)1440-1711.cancerimmunotherapy) pulls together

SLE : -D

### 29 April 2019 Day of Immunology

Watch and read our summaries of the latest research in immunology

internanciogy & Cell Biology

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WILEY

We have held an annual Cover Image Competition to challenge ASI members to find the most exciting and relevant images to display on our cover. We call for submissions in June/July and announce the winners during the Annual General Meeting in December.

all original research articles and reviews into one issue for easy access; the one-stop place to go for exciting, cutting edge research.

Through the appointment of Jessica Borger to lead our social media and public engagement, ICB produced its own Day of Immunology contribution wth a series of lay summaries written by ICB editorial team members.

We gratefully acknowledge the generous help from the team at Wiley who made VideoBytes from these summaries.

### Have you seen these yet? Visit: https://secure.wiley.com/LP=6102.

If that is not enough, ICB has also celebrated Australia's National Science Week by showcasing leading Australian research published in ICB. Would you like your research highlighted and recognised in our public engagement initiatives? Check us out here: https://onlinelibrary.wiley. com/doi/toc/10.1111/(ISSN)1440-1711. ICB-national-science-week-2019.

#### **Publication benefits:**

Ultimately, many authors choose to publish in Immunology & Cell Biology because of the publication benefits such as rapid review, member discounts, and competitive impact parameters.

Finally, one further new development that aims to provide benefits to our authors is a shift from print to online only. Thus, from 1 January 2020, ICB will no longer have print copies and will

#### Did you know?

• The median time to first decision is 7 days. We have responsive editorial toeam to ensure the peer-review process runs smoothly and robustly.

• ASI members receive a 20% discount on the Article Processing Charges associated with Open Access as well as for colour figures in print.

• Our 5-year impact fctor is 4.218 and the 2018 Impact Factor is 3.948

• ICB has an Immediacy Idex of 1.559 while the immunology aggregate is 1.112. This high score means that articles are more quickly cited in ICB.

become online only. This change came about as we assessed several publishing aspects: management of our content, time to print and sustainability. By shifting to online only, we will now be able to manage our content more readily. Due to restrictions of the printing process, we are currently restricted to issues of a specified size, as a result this restriction can delay the incorporation of new articles into a single relevant issues. It also affects the total number of manuscripts we publish each year.

From 1 January 2020, ICB will no longer have print copies and will become online only. By shifting to publishing online-only issues, we can ensure that manuscripts are incorporated into issues in a more timely manner and allow the journal to expand as necessary.

By shifting to publishing onlineonly issues, we can ensure that manuscripts are incorporated into issues in a more timely manner and allow the journal to expand as necessary. Finally, we also acknowledge that the resources committed to publishing a print issue are significant in terms of environmental impact, and this footprint is magnified by the very low uptake of print journals nowadays. While I have cherished receiving my print copy of ICB each month in the mail, the time has come to shift our resources and energies to maximizing the quality and reach of our journal online. Our last print issue is Nov/Dec 2019 (volume 97 issue 10) and to commemorate this issue, there will be special events and competitions for these commemorative issues. Are you ready? See you at ASI 2019 in Adelaide.

## **SPECIAL INTEREST GROUP UPDATE**

HELEN MCGUIRE, ASI SIG Coordinator & NSW Councillor helen.mcguire@sydney.edu.au

From this launch page you'll see a great selection of interesting SIGs which may align with your very own research interests.

I encourage you to reach out to the SIG chairs – you'll find contact details on the webpages for each SIG. The other really exciting development make possible with recent webpage developments is to join our SIG email lists. You may recall receiving an email about this great function in October. To refresh your memory; LOGIN to the ASI website  $\rightarrow$  Visit your member profile  $\rightarrow$  On the second page simply select which SIGs you are keen to be kept informed of – It is that simple! Looking forward to supporting our dynamic Special Interest Communities ☺. ■

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### **Special Interest Group: Communication Updates**

Did you know you can learn about ASI **Special Interest Groups** by visiting our website?

Click here to find out more:

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

Australian and New Zealand

SOCIETY FOR IMMUNOLOGY INC.

# **BRANCH REPORTS**

#### **NSW REPORT**

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



As we wrap up another hectic year, let's first reflect on some recent immunology

events for our members.

NSW ASI members got together with our ACT colleagues for a really enjoyable NSW/ACT branch meeting again hosted at Sebel Harbourside, Kiama, on the 5th and 6th September. Special thanks to our invited speakers: Dr Anne Bruestle (John Curtin School of Medical Research, ANU) representing our local immunology strength, with interstate guests A/Prof Antje Blumenthal (University of Queensland, Diamantina Institute) and A/Prof Daniel Gray (Walter and Elisa Hall Institute of Medical Research).

We had fantastic support from our sponsors! And these branch retreats certainly take a team to put on, so special thanks to my fellow councillor Anselm Enders, Tyani Chan and the ASI admin staff, and staff at the Sebel venue. A special shout out to the Systems Immunology: Technology, Quantification and Application We had such high quality presentations from our students and ECRs. Our judges had their work cut out for them! The following prize winners were announced; Erica Longmuir-Vine, Jessica Merjane, (SITQA) ASI Special Interest Group, who hosted the evening trivia, thanks Di Yu and Felix Marsh-Wakefield for organising.

ASI ACT/NSW Branch Meeting Organising Committee

- Helen McGuire
- Anselm Enders



THANKS TO OUR WONDERFUL INVITED SPEAKERS (FROM LEFT TO RIGHT) A/PROF ANTJE BLUMENTHAL, A/PROF DANIEL GRAY AND DR ANNE BRUESTLE.

.....

#### ASI NEWSLETTER DECEMBER 2019

- Kirstie Bertram
- Ron Sluyter
- Alicia Wilson
- Anne Bruestle
- Debbie Watson
- Felix Marsh-Wakefield

We had such high quality presentations from our students and ECRs. Our judges had their work cut out for them! The following prize winners were announced; Erica Longmuir-Vine, Jessica Merjane,

#### Regarding the ASI Visiting Speakers Program, NSW benefitted from a visit from Steven Albelda in September and a visit from Joachim Schultze.

Ghamdan Al-Eryani, Etienne Masle-Farquhar, Cynthia Turnbull, Anthony Lau.

Regarding the ASI Visiting Speakers Program, NSW benefitted from a visit from Steven Albelda in September and a visit from Joachim Schultze.

Keep in mind upcoming ASI VSP expected in 2020; Michal Schwartz, details to be confirmed, Carla Rothlin, hosted by Garvan in August, and likely Andre Veillette and Stephanie Boisson-Dupis late in the year- stay tuned for details!

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.



BEST ORAL PRESENTATION OUR WONDERFUL PRIZE WINNERS ALONG WITH NSW AND ACT COUNCILLORS HELEN MCGUIRE AND ANSELM ENDERS, AND JUDGING COORDINATOR KIRSTIE BERTRAM.



#### WA BRANCH REPORT

#### BREE FOLEY, ASI WA Councillor broley@ichr.uwa.edu.au

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It has been a pretty exciting past few months here in Western Australia! In October, we held

our biennial Perth Immunology Group (P.I.G.) Meeting at the Mounts Bay Sailing Club which offered spectacular views of the city and the Swan river.

Over 70 local immunologists attended the two-day event, which showcased research ranging from understanding how to induce better antibody response, optimising conditions in childhood vaccinations and deciphering why some people respond to cancer immunotherapy and others don't. We were lucky to have two incredible national invited speakers, Professor David Lynn from SAHMRI and Dr Kylie Quinn from RMIT, who took us on a journey from early life responses to vaccination and the use of antibiotics, to understanding T cell function in ageing and how to improve these responses against cancer and infections.

We were lucky to have two incredible national invited speakers, Professor David Lynn from SAHMRI and Dr Kylie Quinn from RMIT, who took us on a journey from early life responses to vaccination and the use of antibiotics, to understanding T cell function in ageing and how to improve these responses against cancer and infections.

The calibre of student and ECR presentations was excellent. I would like to congratulate Dr Kyle Mincham, who was awarded

best ECR presentation for his talk entitled: Cellular and molecular mechanisms of transplacental immune training and Sonia McAlister who was awarded best student presentation for her talk entitled: Maternally derived Tdap-antibodies interfere with infant antibody responses after primary immunisation but does not increase with a subsequent pregnancy booster. Finally a huge thank you to all our sponsors and to the local WA branch committee for all of their help organsing P.I.G., especially Jonatan Leffler and Emma de Jong who put together such an exciting and stimulating scientific program. Looking forward to seeing all WA immunologists at the next P.I.G. meeting in 2021!

We also had the privilege of hosting two visiting speakers. In August, Professor Carola Vinuesa from ANU joined us for a seminar and sundowner. This was an amazing opportunity for Perth immunologists to hear from one of the preeminent experts in B cell biology. Professor Vinuesa shared her exciting research on class-switch recombination in B cells and how it doesn't always occur in germinal centres as previously thought. In October, we hosted Professor Steve Albelda from the University of Pennsylvania who was visiting Australia as part of the ASI Visiting Speakers Program. Professor Albelda shared some fascinating research on the immune response in lung cancer patients where they had unique access to tumour samples to assess the tumour microenvironment in humans.

As the year draws to a close, I want to take the opportunity to thank all of the WA branch committee for all the hard work throughout the year. You have made my first year as Councillor very enjoyable and I look forward to all the exciting events upcoming in 2020.

As the year draws to a close, I want to take the opportunity to thank all of the WA branch committee for all the hard work throughout the year. You have made my first year as Councillor very enjoyable and I look forward to all the exciting events upcoming in 2020.

We always welcome any feedback/suggestions from our members and encourage anyone interested in joining the committee to please let us know!

#### NZ BRANCH REPORT

#### RIES LANGLEY, ASI NZ Councillor r.langley@auckland.ac.nz

I am back for a second term as NZ Branch Councillor. I am looking forward to continuing

my involvement with our local members and representing the Branch.

With the annual scientific meeting being held in Auckland next year the Branch will not hold a separate Branch meeting. Instead we will be providing financial assistance to our student and early career members to attend the ASM. I urge all current and new members to get their 2020 membership paid before 1 April 2020 so that you are eligible for this assistance.



VISITING SPEAKER MIRJAM VAN DER BURG WITH LOCAL HOST DR. MAIA BREWERTON.

On 18 October, Associate Professor Mirjam van der Burg from Leiden University Medical Centre visited Auckland as part of the ASI Visiting Speaker Programme. She was hosted in Auckland by a new branch member and clinical immunologist Maia (Arihia) Brewerton and gave two excellent talks. One was on RAG and NHEJ defects in primary immunodeficiencies and the other on the Euroflow approach to PIDs – the primary screening tube. In between these talks was a presentation by NZ Branch member Anna Brooks on the use of Spectral Cytometry to analyze hyper IgM syndrome.

Have a wonderful summer break and I look forward to seeing you all in 2020. ■

### 

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## IT'S A WRAP FOR 2019! More to come in 2020

STUART MANNERING, VSP Coordinator smannering@svi.edu.au

Hosted by David Tarlinton, Donna Farber visited during Aug-Sept period and have returned home after attending the IgV Annual Scientific meeting at which she was Keynote speaker. After giving a seminar and day long meeting at the Alfred and then all the next day at IgV before setting off on the rest of an intense schedule of ACT, NSW and Qld, here is Donna enjoying some Australian wild-life.



DONNA FARBER STALKING KANGAROOS AT YARRA VALLEY LODGE.

Thanks to all the speakers, hosts, ASI volunteers and members who continue to make the visiting speaker programme such a vibrant part of ASI. Last of the 2019 Visiting Speakers, Joachim Schultze was hosted by Stephen Turner from Monash University from 10th November. Joachim visited Queensland, NSW, ACT and Victoria. He arrived in Brisbane on November 10th and leaves from Adelaide after attending the ASI meeting.

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

#### **Upcoming Visiting speakers**



Prof Andrew MacDonald, hosted by Jessica Borger of Monash University. Andrew will be visiting

Brisbane, Cairns, Melbourne and Wellington from mid January to early February 2020.



A/Prof Carla Rothlin, hosted by Ian Parish of the Peter Mac. Carla will be visiting Melbourne,

Sydney and Brisbane in early August 2020.



#### Prof Paul Kubes,

hosted by Tonia Woodberry of ANU. Paul's trip has been delayed for personal

reasons. We're expecting him to visit sometime in 2020.

#### Successful nominees from the September 2019 nomination round

The successful nominees from the nominations that closed at the end of September 2019 have just been announced. Details of these speakers' itineraries will be circulated closer to the times of their visits.

- **Prof Hai-Hui Xue**, who will be hosted by Lisa Mielke of the ONJI
- **Prof Andre Veillette**, who will be hosted by Fernando Guimaraes of University of Queensland.
- Prof Shabaana Khader, who will be hosted by Brin Ryder of Otago University, NZ.
- Dr Stephanie Boisson-Dupis, who will be hosted by Stuart Tangye of the Garvan Institute.

### **49<sup>TH</sup> ASI ANNUAL MEETING, 2020** AUCKLAND, NEW ZEALAND AND SOME PREVIOUS HIGHLIGHTS

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

The 48th ASI Annual Meeting in Adelaide has just come to a close, but we are already getting ready for the next meeting which will be, for the first time, held in Auckland, New Zealand from the **29th November – 3rd December**! More information will be announced as the meeting draws closer so save your dates now and stay up-to-date on the ASI website <u>here</u>!

For more information about the 2020 NZ meeting program, please contact the LOC Chair, Ries Langley <u>r.langley@auckland.ac.nz</u> or Programme Chair, Anne La Flamme at <u>anne.laflamme@vuw.</u> <u>ac.nz</u>.

On that note, check out our ASI Best Overall Poster 2018 winner for a taste of some quality work that we can expect at the next annual meeting from our students and post-docs!

### Join us in Auckland for ASI 2020!

#### Confirmed speakers include:

- Judi Allen, University of Manchester
  - Cath Bollard, Children's Research Institute
    - Oleg Butovsky, Harvard Medical School
      - Claudio Franceschi, University of Bologna
        - Michelle Linterman, Babraham Institute
          - Mala Maini, University College London
- Marion Pepper, University of Washington
  - Troy Randell, University of Alabama
    - Elia Tait-Wojno, Cornell University
    - Kiyoshi Takeda, Osaka University
      - Maria Yazdanbakhsh, Leiden University

29 Nov-3 Dec 2020, Auckland, New Zealand

#### ASI Best Overall poster award recipient – 47th ASI Annual Meeting, Perth

I was very fortunate to do my PhD doing something I was really passionate about - cancer immunotherapy. I was even more blessed, really, to do this alongside two of the most brilliant minds I have ever come across, Prof. Phil Darcy and Dr. Paul Beavis, who were my primary supervisors at the Peter MacCallum Cancer Centre. My research focused on T cell immunotherapy, in particular chimeric antigen receptor (CAR) T cell therapy which involves genetic engineering of T cells to redirect their specificity to specific tumour antigen(s).

Immune agonist  $\alpha$ -4-1BB monoclonal antibody (mAb) stimulates activation of both (A) chimeric antigen receptor (CAR)modified T cells and (B) host endogenous T cells via the 4-1BB receptor, leading to their increased anti-tumour responses. (C) CAR T cells engineered to secrete Flt3L promote the differentiation and expansion of CD103+ DCs, (D) resulting in increased antigen cross-presentation including potential neoantigens to the host CD8+ T cells, (E) which then leads to priming of the host CD8+ T cells to kill tumour cells, including those not expressing the CAR target antigen. This approach may be further enhanced by the inclusion of immune adjuvants such as  $\alpha$ -4-1BB mAb or a Toll-like receptor (TLR) agonist.

It has been clinically proven now that CAR T cell therapy is a potent treatment for patients with haematological malignancies such as B-cell leukaemia and lymphoma, as highlighted by the recent FDA approval of CD19targeted CAR T cell products. However, when used to treat various different solid cancers, CAR T cell therapy has proven

To address such challenges for enhancing CAR T cell therapy in solid cancers, my PhD projects involved developing a combination strategy that combined CAR T cells with an immune agonist, a-4-1BB antibody, that resulted in enhanced solid tumour regression in a pre-clinical model.



2018 ASI BEST OVERALL POSTER WINNER – SHERLY MARIDANA, SUPERVISED BY PROF. PHIL DARCY AND DR. PAUL BEAVIS. sherly.mardiana@pennmedicine.upenn.edu

limited in its efficacy. Though not entirely understood, this disparity may be, in part, due to the lack of CAR T cell activation, the immunosuppressive tumour microenvironment induced by solid tumours, and/or tumour antigen heterogeneity.

To address such challenges for enhancing CAR T cell therapy



THE DARCY & BEAVIS LAB



FIGURE 1. STRATEGIES TO ENHANCE CAR T CELL AND ENDOGENOUS IMMUNE CELL RESPONSES BY USING AGONISTIC  $\alpha$ -4-1BB MAB AND FLT3L CYTOKINE. HERE ARE RECENT REVIEW PUBLICATIONS FROM OUR LAB WHICH NICELY SUMMARISE OUR RESEARCH INTERESTS: 1) https://www.ncbi.nlm.nih.gov/pubmed/31167925; 2) https://www.ncbi.nlm.nih.gov/pubmed/31073403

in solid cancers, my PhD projects involved developing a combination strategy that combined CAR T cells with an immune agonist. a-4-1BB antibody, that resulted in enhanced solid tumour regression in a pre-clinical model. Another strategy we developed was to promote the expansion of dendritic cells (DCs), particularly type 1 DCs known as the CD103+ DCs, which are known to be superior at antigen crosspresentation. This was achieved by genetically engineering CAR T cells to secrete a cytokine Flt3L, which is known to promote

the differentiation of DCs, and importantly the CD103+ DCs. Given the heterogeneous nature of solid tumour antigens, engagement of the host T cell immunity by these type 1 DCs may be a promising approach to increase the likelihood of epitope spreading, that may potentially lead to eradication of antigen-negative tumour cells, and subsequently decreased risk of antigen escape variants emerging.

Overall, I can honestly say I had a wonderful time doing my PhD with all its up's and down's. I have now started a new job as a post-doc at the University of

Pennsylvania in the US, in Dr. Saar Gill's laboratory. I continue to work on CAR T cell therapy, but this time for the treatment of acute myeloid leukaemia (AML) which involves various genetic manipulations. Future plans? I am not 100% sure yet, but I am open to various possibilities such as going to industry to work on drug developments, or perhaps doing medicine and becoming a clinician scientist. At this stage, at least for the next few years I would like to be a post-doc and stay in academia. Until whatever happens next! 😊 🗖

### ASI POST-GRADUATE INTERNATIONAL TRAVEL AWARD RECIPIENT EUROPEAN CELL DEATH ORGANIZATION MEETING DRESDEN. GERMANY

GEORGIA ATKIN-SMITH, supervised by Dr Ivan Poon g.atkin-smith@latrobe.edu.au @someblondescientist @SomeBlondeSci

In September 2019, I was fortunate enough to literally travel around the world in the name of science, thanks to the ASI Postgraduate International Travel Award.

I was awarded the ASI ITA in the last few months of my PhD, providing a unique opportunity to seek postdoctoral opportunities and network with leading scientists in my field. I conducted my PhD at the La Trobe Institute for Molecular Science under the supervision of Dr Ivan Poon, exploring how the final moments of a cell's death is executed and how this impacts on infectious disease such as influenza A virus. Our research has identified a

I headed off to the USA to visit a world leading cell death and cell clearance laboratory ran by Professor Kodi Ravichandran at the University of Virginia, Charlottesville. There, I was invited to give a seminar and met with a variety of researchers, PhD students and laboratory heads. new mechanism of monocyte apoptotic cell disassembly (the process whereby an apoptotic cell fragments into small extracellular vesicles called apoptotic bodies). Interestingly, during influenza infection, virions may hijack the disassembly of dying cells and use this as a novel mechanism to aid



THE BEAUTIFUL DRESDEN



MY VISIT TO UNIVERSITY OF VIRGINIA

viral propagation and overall, aid pathogenesis.

Given my strong interest in cell death, on the 15th of September I headed off to the USA to visit a world leading cell death and cell clearance laboratory ran by Professor Kodi Ravichandran at the University of Virginia, Charlottesville. There, I was invited to give a seminar and met with a variety of researchers, PhD students and laboratory heads who are investigating apoptosis, the removal of apoptotic cells by phagocytes, and Pannexin 1 channels (key channels that release 'find-me' signals during

#### cell death).

After 20 thought-provoking meetings, I continued my travels to the other side of the world for the European Cell Death Organization meeting in Dresden, Germany. This meeting was jampacked full of renowned experts in the cell death field. From Carlo Croce who discovered the role of BCL2 in driving B Cell lymphoma in 1985, to Brent Stockwell who

Now in 2019, cell death does not simply encompass apoptosis and necrosis, but over 12 forms of cell death have now been distinguished, paving the way for an exciting future for young cell death researchers and immunologists.

discovered ferroptosis in 2012, the three-day conference was a beautiful walk through the history of cell death. A room full of experts also made for intriguing question time and poster sessions where I was able to present my PhD research. Now in 2019, cell death does not simply encompass apoptosis and necrosis, but over 12 forms of cell death have now been distinguished, paving the way for an exciting future for young cell death researchers and immunologists.



PRESENTING MY POSTER AT THE ECDO MEETING.

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### ASI POST-GRADUATE INTERNATIONAL TRAVEL AWARD RECIPIENT

THE JOINT MEETING OF THE GERMAN SOCIETY FOR IMMUNOLOGY (DGFI) AND THE ITALIAN SOCIETY FOR IMMUNOLOGY AND ALLERGOLOGY (SIICA), MUNICH GERMANY

HAYLEY A. MCNAMARA, supervised by Ian Cockburn hayley.mcnamara@anu.edu.au @HayleyA\_Mc

I am a PhD student in the Malaria Immunology lab of Associate Professor Ian Cockburn, at the Australian National University. My PhD work focuses upon understanding the B cell response to the malaria parasite and how this may be impacting the development of an effective malaria vaccine.

It was the best of times, it was the wurst of times (Apologies for the pun, but I couldn't resist using it after eating Bavarian food for a week!). This September, thanks to an ASI International Postgraduate Travel Award, I was fortunate to travel to Munich to attend the Joint Meeting for the German Society of Immunology (DGfl) and the Italian Society for Immunology and Allergology (SIICA). When I first found out about this meeting I was excited to see an opportunity in which I could engage with excellent immunological research whilst travelling to one of my favourite cities. I was also keen to see how the European society meetings

held up against our national ASI meetings. Turns out, they do quite a nice job – although I did miss the humour of our Lafferty debate!

The meeting was held in the palatial main building of Ludwig Maximilians University (LMU).



TRADE DISPLAYS IN THE LMU ATRIUM (FEATURING THE WHITE ROSE ORGAN)

The meeting was held in the palatial main building of Ludwig Maximilians University (LMU). Although the first impression did feel vastly different to arriving at any conference venue in Aus (the entrance was a large atrium containing a pipe organ!), once the sessions began all the attention was focused upon the science.

Although the first impression did feel vastly different to arriving at any conference venue in Aus (the entrance was a large atrium containing a pipe organ!), once the sessions began all the attention was focused upon the science. There was a large focus upon fundamental immunology research rather than clinical work. I particularly enjoyed the talks during the President's Symposium, especially hearing about Robin Graf's work exploring the instructive role of the BCR

#### ASI POST-GRADUATE INTERNATIONAL TRAVEL AWARD RECIPIENT



THE SOCIAL EVENING – HOSTED AT THE ICONIC HOFBRÄUHAUS



PRESENTING MY WORK IN A DEPARTMENT SEMINAR AT CHARITÉ, BERLIN

experience where I received a lot of fantastic feedback and ideas for my current project, but it also opened my eyes to how different labs and institutes function in Germany. Overall, I have learnt a lot from this trip. I am extremely grateful to ASI for awarding me this International Travel Award that allowed me to participate in this meeting and the subsequent lab visits. This has helped to foster my future career in research, as I look forward to doing postdoctoral work in Germany. ■

After the meeting concluded I began a 10-day post-doc tour around Germany where I was able to visit labs and present scientific seminars in Freising, Berlin and Heidelberg. This was a great experience where I received a lot of fantastic feedback and ideas for my current project, but it also opened my eyes to how different labs and institutes function in Germany.

in BI cell development which he has been conducting in Klaus Rajewsky's Berlin laboratory. In addition to all the prominent German and Italian researchers, there were outstanding talks from a host of international speakers such as Shimon Sakaguchi, John Harty, Donna Farber and Carl June.

After the meeting concluded I began a 10-day post-doc tour around Germany where I was able to visit labs and present scientific seminars in Freising, Berlin and Heidelberg. This was a great

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### ASI POST-GRADUATE INTERNATIONAL TRAVEL AWARD RECIPIENT THE 5<sup>TH</sup> CRI-CIMT-EATI-AACR INTERNATIONAL CANCER IMMUNOTHERAPY CONFERENCE, PARIS, FRANCE

JAKE O'DONNELL

My first day in France began by getting lost. My extremely poor French, combined with a lack of sleep landed me in the outskirts of Paris in a boulangerie run by a very sweet (and helpful) couple. After a long chat (in English) and more than a few éclairs, they drove me to the Gustave Roussy Cancer Research Centre. There. I presented work on the mechanisms underlying the superior efficacy of Neoadjuvant versus Adjuvant immunotherapy for the eradication of spontaneously

My first day in France began by getting lost. My extremely poor French, combined with a lack of sleep landed me in the out-skirts of Paris in a boulangerie run by a very sweet (and helpful) couple.

metastatic cancer. My talk was very well-received, prompting a long Q&A session. Later, I met with Laurance Zitvogel and members of her laboratory. They taught me all about their work on the microbiome and cancer immunology, science in France, and some of their exciting soon-to-be-published work. That afternoon, despite two simultaneous transit strikes, and three Ubers, I attended an interesting workshop at The Cordeliers Research Centre on tertiary lymphoid structures, followed by dinner with the Zitvogel laboratory at an amazing crêperie in the city centre.

Over the next four days, I attended the fifth CRI-CIMT-EATI-AACR International Cancer Immunotherapy Conference: Translating Science into Survival, held just outside Paris at La Défense. Despite the stressful train trips (and Fun fact: buying metro tickets in Paris to get outside of Paris is extremely challenging), attending the conference was an absolute pleasure. It began with a keynote lecture by Ton Schumacher who discussed early immunological changes in the tumor microenvironment following effective immunotherapy, and was concluded by Jennifer Wargo who discussed the gut microbiome and how faecalmatter transfer can be used to improve the efficacy of anti-PD-1-based immunotherapy. Hearing talks by Robert Schreiber on MHCII-restricted mutated neoantigens, John wherry on the epigenetic regulation of CD8+ T cell exhaustion, and presenting my own work on neoadjuvant



VISTING THE LOUVRE MUSEUM AT NIGHT



PROFESSOR JOHN WHERRY UPDATING EVERYONE ON ADVANCES MADE IN OUR UNDERSTANDING OF T CELL EXHAUSTION.



MY POSTER.

fasting, to stress less, and that autophagy is going to save us all – their work is cutting-edge and very interesting.

Paris is an extremely beautiful city. Although I didn't have much personal time while there, I slept little and made good use of my nights to make a lot of new local friends, to eat as much French food as possible, and to explore the city. It was a truly memorable experience, and I am very grateful to ASI for giving me this opportunity... Although I am afraid that croissants outside of France may be forever ruined for me now. Paris is an extremely beautiful city. Although I didn't have much personal time while there, I slept little and made good use of my nights to make a lot of new local friends, to eat as much French food as possible, and to explore the city. It was a truly memorable experience, and I am very grateful to ASI for giving me this opportunity...

Presenting my own work on neoadjuvant immunotherapy were absolute highlights of the conference for me. Although a barrage of (very interesting and helpful) questions, meant I had only 30 minutes to look at other posters in the same session! It was also very humbling to meet and talk with people whose work inspired my interest in cancer immunology.

immunotherapy were absolute highlights of the conference for me. Although a barrage of (very interesting and helpful) questions, meant I had only 30 minutes to look at other posters in the same session! It was also very humbling to meet and talk with people whose work inspired my interest in cancer immunology.

My final day in Paris was spent at The Cordeliers Research Centre, where I presented work from my PhD studies to the institute. I was able to meet with Guido Kromer and members of his lab to discuss my work, and to chat about their recent work. They taught me all about caloric restriction and

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## ASI POST-GRADUATE INTERNATIONAL TRAVEL AWARD RECIPIENT

5TH INTERNATIONAL CANCER IMMUNOTHERAPY CONFERENCE (CICON19) HELD IN PARIS, FRANCE ON 25-28 SEP 2019

YOKE SENG LEE, supervised by A/Prof Kristen Radford yoke.lee@mater.uq.edu.au

I come from A/Prof Kristen Radford's Cancerimmunotherapies team based at Mater Research – University of Queensland at the Translational Research Institute in Brisbane. In brief, we have had longstanding expertise in using humanised mouse models to study rare human dendritic cell (DC) subsets in an *in vivo* setting. My PhD work pioneered a clinically oriented study in which we collected blood samples from advanced (stage 3 and 4) melanoma patients.

The conference allowed me to showcase my work to peers who are not familiar with DCs, let alone human cross-presenting DCs. It also gave me an opportunity to understand the cutting edge research and be abreast of unpublished data of the "giants" in the field. I've come to better appreciate the different immune microenvironments and the role of the microbiome and metabolism in cancer immunotherapy.



THE AWE-INSPIRING TURNOUT!

Particularly, we followed patients receiving anti-PD-1 and/or anti-CTLA-4 checkpoint inhibition by collecting samples at baseline and at regular intervals post treatment initiation. I studied how DCs are numerically and functionally different in patients and healthy controls, and how these parameters change in response to immunotherapy, with a focus on potential differential outcomes in responders and non-responders. In sum, crosspresenting DCs are numerically and functionally attenuated in patients than in controls, and also numerically and functionally suppressed selectively in nonresponders to immunotherapy across time.



WHAT INTEREST IN MY POSTER ©

Using the ASI ITA funds, I travelled to the 5th International Cancer Immunotherapy conference (CICON19) held in Paris, France on 25-28 Sep 2019. The conference allowed me to showcase my work to peers who are not familiar with DCs, let alone human cross-presenting DCs. It also gave me an opportunity to understand the cutting edge research and be abreast of unpublished data of the "giants" in the field. I've come to better appreciate the different immune microenvironments and the role of the microbiome and metabolism in cancer immunotherapy. I've also had the amazing experience of visiting a high-security lab that utilises non-human

primate models in their vaccine studies, as well as networking with Professors, Post docs, and industry professionals from US, the Netherlands, Switzerland, Italy, among others. The award has assisted me in receiving feedback about my work and preparation for my publication. Also, it has offered an opportunity to meet with potential collaborators and secure a potential Post doc position after the completion of my PhD. In all, it was a very memorable experience given that it was my first overseas international conference, attended by thousands, and I'm immensely grateful to ASI for supporting my work and travel.



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Vono et al. (2019). Maternal Antibodies Inhibit Neonatal and Infant Responses to Vaccination by Shaping the Early-Life B Cell Repertoire within Germinal Centers. Cell Reports. doi: 10.1016/j.celrep.2019.07.047

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Halkias et al. (2019). CD161 contributes to prenatal immune suppression of IFN-γ–producing PLZF+ T cells. The Journal of Clinical investigation. doi: 10.1172/JCI125957



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Tian et al, 2019. Double negative T cells mediate Lag3-dependent antigen-specific protection in allergic asthma. Nature Communications. Doi: 10.1038/s41467-019-12243-0

MojoSort™ Mouse CD8 T Cell Isolation Kit (https://www.biolegend.com/en-us/products/mojosort-mouse-cd8-tcell-isolation-kit-11872)

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(https://www.biolegend.com/en-us/products/recombinant-human-il-1beta-carrier-free-5416) Bryson et al, 2019. Heterogeneous GM-CSF signaling in macrophages is associated with control of Mycobacterium tuberculosis. Nature Communications. Doi: 10.1038/s41467-019-10065-8

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