

ASI NEWS SEPTEMBER 2018



PUBLICATION OF The year awards

Immunology & Cell Biology Publication of the Year Awards 2017

18

JARED PURTON AWARD

Rhea Longley Research visit to Mahidol University, Bangkok, Thailand

CONTACT US

Australasian Society for Immunology Inc. ASI Inc. Seretariat PO Box 1371, Mitcham North 3132 Ph: 03 8393 9388 www.immunology.org.au/contact-us

47TH ANNUAL SCIENTIFIC MEETING OF THE AUSTRALASIAN SOCIETY FOR IMMUNOLOGY 2-6 DECEMBER 2018 PAN PACIFIC HOTEL PERTH, WESTERN AUSTRALIA

INTERNATIONAL SPEAKERS

Ido Amit Weizmann Institute of Science, ISRAEL

Daniela Frasca University of Miami, USA

Nicholas Gascoigne National University of Singapore, SINGAPORE

Florent Ginhoux Singapore Immunology Network, SINGAPORE

Paul Klenerman University of Oxford, UNITED KINGDOM

Lai Guan Ng Singapore Immunology Network, SINGAPORE

Luke O'Neill Trinity College Dublin, IRELAND

Graham Pawelec University Hospital Tuebingen, GERMANY Health Sciences North Research Institute Sudbury, CANADA

Fiona Powrie University of Oxford, UNITED KINGDOM

Yuval Rinkevich German Research Center for Environmental Health, GERMANY Ellen Rothenberg California Institute of Technology, UNITED STATES

Andrea Schietinger Sloan Kettering Institute, UNITED STATES

TTT

Bing Su Shanghai Jiaotong University School of Medicine, CHINA

AUSTRALIAN AND NEW ZEALAND INVITED SPEAKERS Paul Cameron

The University of Melbourne, VIC

Ian Cockburn Australian National University, ACT

Ruth Ganss Harry Perkins Institute of Medical Research/ University of Western Australia, WA

Katharina Gaus University of New South Wales, NSW

Phil Hodgkin Walter and Eliza Hall Institute of Medical Research, VIC

Axel Kallies Walter and Eliza Hall Institute of Medical Research, VIC

Cecile King Garvan Institute of Medical Research, NSW

www.asi2018.org

Graham Le Gros ~~ Malaghan Institute of Medical Research, NEW ZEALAND 13 17 12

Meredith O'Keeffe Monash University, VIC

Kate Schroder University of Queensland, QLD

Mimi Tang Murdoch Children's Research Institute, VIC

Stuart Tangye Garvan Institute of Medical Research, NSW

BURNET ORATION

Franca Ronchese Malaghan Institute of Medical Research, NEW ZEALAND

PRESIDENT'S LECTURE Susanne Heinzel Walter and Eliza Hall Institute of Medical Research, VIC

FOUNDATION LECTURE Ken Shortman Walter and Eliza Hall Institute of Medical Research, VIC

CONTENTS



Australasian Society for Immunology Inc.

BELLS ARE RINGING AND

IT'S NOT FOR CHRISTMAS!.....4 Angelica Lau

PRESIDENT'S REPORT......5 Susanne Heinzel, ASI president

IMMUNOLOGY & CELL BIOLOGY PUBLICATION OF THE YEAR

AWARDS 2017......10 Anne La Flamme, ICB Editor-in-chief

THE IUIS CORNER 13 J. Alejandro Lopez

2017 BURNET ORATOR HIGHLIGHTS FROM 46TH ASI ANNUAL MEETING 15 Professor Lynn Corcoran

JARED PURTON AWARD RECIPIENT 2017.... 18 Research visit to Mahidol University Bangkok, Thailand, 1-21 January 2018 Rhea Longley

"I'M AN IMMUNOLOGIST" ASI SOCIAL MEDIA PROMOTIONAL CAMPAIGN...... 20 Dr Gabriela Khoury, ASI social media manager

WOMEN'S INITIATIVE 46th ASI Annual Meeting, Brisbane Promoda Perera

| | _ |
|--|------------|
| TRAVEL REPORTS Pharmaxis-ASI Travel Bursary Winner 2017 Marios Koutsakos | .24 |
| ASI International Travel Award Recipient Kelvin (Zewen) Tuong | . 26 |
| ASI Jacques Miller Travel Award Recipient Assoc. Prof. Ashraful Haque | . 28 |
| BRANCH REPORTS | 30 |
| WA Branch Report Connie Jackaman, WA branch Councillor | .30 |
| NZ Branch Report <i>Ries Langley, NZ Councillor</i> | 3 |
| NSW Branch Report Helen McGuire, NSW branch Councillor | . 32 |
| QLD Branch Report Sumaira Hasnain, QLD branch Councillor | . 33 |
| SA/NT Branch Report Iain Comerford, SA & NT branch Councillor | . 34 |
| VIC/TAS Branch Report Scott Mueller, VIC & TAS branch Councillor | . 35 |
| PUBLICATIONS OF INTEREST | . 37 |

ABOUT THE AUSTRALASIAN SOCIETY FOR IMMUNOLOGY......57





"I'M AN IMMUNOLOGIST" promotional campaign



WOMEN'S INITIATIVE AWARD RECIPIENT

Promoda Perera. 46th ASI Annual Meeting, Brisbane



28

ASI JACQUES MILLER TRAVEL AWARD RECIPIENT Assoc. Prof. Ashraful Haque

EDITORIAL

BELLS ARE RINGING AND IT'S NOT FOR CHRISTMAS!

ANGELICA LAU, ASI Newsletter Editor



Well, the bells are ringing! Have you submitted your abstracts to the upcoming 47th ASI Annual Meeting in Perth? It is only a few months away!



In this quarter's issue, we get a sneak peek into some of the highlights at the last ASI annual meeting - this includes an interview with last year's Burnet Orator Lynn Corcoran, who blew us all away as she shared her incredible journey as an Immunologist. I'm sure this year's annual ASI conference in Perth will also be an exceptional meeting! Perhaps you'll even be able to meet some of our Rowlev Laureates whose research made remarkable impact in immunology across Australia and New Zealand. The Derrick Rowley Medal has been awarded since 2005 to individuals who have given outstanding services to the ASI and the Discipline of Immunology over many years.

PAN PACIFIC HOTEL, PERTH, WESTERN AUSTRALIA



The ever more exciting news is that ASI Travel Bursaries are available to all ASI members. There's only gain and nothing to lose! It is always a delight to see our fellow members enjoying the annual meeting and gaining much from it - so be sure to read some of the reflections from our previous annual meeting award winners and the various bursary winners featured here, and see for yourself how ASI can support you throughout your research career!



THE 2016 ROWLEY LAUREATES, FROM L-R IAN BARR, JENNIFRE ROLLAND, JOSE VILLADANGOS, ANDREW LEW, DALE GODFREY.



Australasian Society for Immunology Inc.

Australasian Society for Immunology Inc. PO Box 1371, Mitcham North 3132 VIC P: +61 3 8393 9388 E: newsletter@immunology.org.au

PRESIDENT'S REPORT SUSANNE HEINZEL, ASI president

This time of the year is buzzing with excitement and anticipation on many different levels. Many are aiming to finish off papers, projects, PhDs before we raise our glasses to welcome the New Year (which is approaching with a frightening speed).

The GRPs have now done their jobs (and the members hopefully recovered by the time they read this) and applicants are eagerly awaiting the outcomes of the funding round. This year we're also all curious to learn more about the new funding system and what the changes will mean for the individual people, groups, institutes and research areas. It will be interesting to see what our experiences will be this time next year.

While I'm writing this many are busy putting their finishing touches to the abstracts for the ASI meeting in Perth. This can be particularly nerve-racking for first time attendees at a conference. Packaging up their story for presentation to a wider audience outside of the immediate lab environment for the first time and the thought of standing in front of an unknown audience is a thrill for some and daunting for others, but it's a great accomplishment for all. To make it a bit easier for postgraduate students and early career postdocs we have increased the total amount for bursaries that we're giving out to our members to \$40000. These are here to stay and for

those who miss out this time the chances to receive a bursary next time are pretty good.

The line up for the Perth meeting is spectacular with great international and local speakers. LOC chairs Connie Jackaman and Scott Fisher and their team have put together a stellar scientific and social program. The scientific program captures new advances in a broad range of areas with some focus on the local expertise in tumour immunology and aging. I think it's safe to say that we can look forward to outstanding presentations at plenaries, symposia, workshops and poster sessions alike. There will also be plenty of opportunity to catch up with your colleagues and friends over some nice wine. This year is also the first time that there will be onsite child care facilities (subsidised by ASI) to make attendance at the ASI meeting easier for parents.

A few weeks ago you will have received an e-mail from me about the proposed name change of ASI to ditch the confusion that is 'Australasian' and change to "The Australian and New Zealand Society for Immunology". The



response from membership to this mail and the proposal was overwhelmingly positive and I have no doubt about the general support for this change. However, there has been some discussion about the decision of keeping the acronym. This decision hadn't been made without detailed discussions about the pros and cons. In the end ASI council decided to keep 'ASI' as it is a well-recognised brand name and we felt it would be risky to potentially compromise this international recognition. However it is important to bring a proposition to the AGM that is supported by our membership, hence we have decided to poll the membership on the acronym. By the time this goes to print we might already have a result of this poll.

To make it a bit easier for postgraduate students and early career postdocs we have increased the total amount for bursaries that we're giving out to our members to \$40000.

Our usual programs are running well. The Visiting Speakers Program has provided us with visits from some outstanding scientists. The VSP is one of the best recognised and appreciated

programs we have. Current and formers VSP speakers are full of praise for this program and keep telling me how valuable they think it is. So please, keep your suggestions for VSPs coming. Everybody can nominate a VSP and calls for the next round of nominations will go out soon. And, please keep gender balance in mind when you suggest speakers. It is difficult to adhere to our gender equity guidelines when there is a strong imbalance in the pool of the suggested speakers.

Just a reminder that award money for international travel awards and the Ada and Miller Awards has also been increased (now >\$100k annually). I encourage all eligible members to apply for that overseas conference, postdoc tour or lab visit. It is a great opportunity to see other labs, learn new things and to showcase the immunology 'made in Australia and NZ'.

As always, think about ICB and CTI when writing papers. There's never been a better time with lots to gain (and nothing to lose). Both journals are going strong and there are several awards and prizes to be won. The publication of the year (one each from CTI and ICB) will receive \$1000 on top of a guaranteed speaking slot and free rego at the next ASI meeting (ASI members only). ASI currently subsidises publication fees for accepted articles in CTI for ASI members, and any published article in CTI and ICB is in the run for the \$500 altmetric prize (one each).

I hope to see you all in Perth.

Clinical & Translational Immunology

Special Invitation for Young Investigators

The Editorial Board of Clinical and Translational Immunology is looking for Early and Mid Career ASI investigators to act as Guest Editors for the journal. Guest Editors will be responsible for coordinating theme-specific Special Features of Clinical and Translational Immunology for 2017-18 which can include primary research papers and/ or comprehensive reviews. If you are interested in acting as Guest Editor, please email the Clinical and Translational Immunology Editorial Office (cti.office@wehi. edu.au) with the potential title of the theme and a list of potential contributors to this Special Feature. In addition, please

include brief CVs (no more than two pages) of the proposed Guest Editor(s).

Here are some suggestions for potential themes for Special Features. We welcome other suggestions as well.

- Cancer Immunotherapy
- Transplantation immunity
- Genetic basis of Immunodeficiences
- Clinical application of HDAC inhibitors
- Ageing and immune regulation
- Epigenetics and Immune Regulation
- Autoimmune diseases and Immune interventions

- Epigenetics and immune regulation
- Combination Immunotherapies
- GWAS and Immunity

Recent Special Features from CTI

CTI Special Feature: Inflammatory Diseases: A Translational Perspective

CTI Special Feature: Innate Immune Responses and Vaccine Design

Kind regards, Rajiv Khanna, Editor-in-Chief Gabrielle Belz, Deputy Editor Adrian Liston, Deputy Editor Stuart Tangye, Deputy Editor



Facebook Twitter

WILEY

Clinical & Translational Immunology

2018 CTI CiteScore 3.55

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 experim

ASI members enjoy a discount for publishing in 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

WILEY

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

IMMUNOLOGY & CELL BIOLOGY PUBLICATION OF THE YEAR AWARDS 2017

ANNE LA FLAMME ICB Editor-in-chief

Victoria University of Wellington School of Biological Sciences, Wellington, New Zealand E: <u>Anne.LaFlamme@vuw.ac.nz</u>

The Immunology & Cell Biology Publication of the Year Awards have been established for outstanding studies submitted by first authors who are financial members of the Australasian Society for Immunology Inc. in the year of the article's publication. Articles vying for these awards can come from any of the journal categories including Original Articles, Outstanding Observations, Perspectives or Short Communications. The ASI President together with members of the ASI Executive and the Immunology & Cell Biology

Every year an outstanding series of papers are submitted for consideration for the prizes and 2017 was no different with an exceptional standard of science reported in the papers.

Editorial Board undertake rigorous review to identify the most outstanding original research articles based on scientific excellence. The winner of the Chris and Bhama Parish ICB Publication of the Year Award is awarded an AU\$1000 scholarship provided by Wiley and the runner-up is awarded an AU\$500 scholarship provided by Thermo Fisher Scientific.

Every year an outstanding series of papers are submitted for consideration for the prizes and 2017 was no different with an exceptional standard of science reported in the papers. It is a great pleasure to announce the winners of the awards for 2017 who are as follows:

Chris and Bhama Parish ICB Publication of the Year Award: Ms Deborah Burnett, Immunology Division, Garvan Institute for Medical Research, Sydney, Australia

Thermo Fisher Scientific Publication Award: Dr Delgertsetseg Chuluundorj, School of Biological Sciences, Victoria University of Wellington, New Zealand (Present address: Brain Research Laboratory, University of the Humanities, Ulaanbaatar, Mongolia)

The winning paper by Ms Burnett

is an Original Article entitled 'Murine LRBA-deficiency causes CTLA-4 deficiency in Tregs without progression to immune dysregulation' and was published

The winner of the Chris and Bhama Parish ICB Publication of the Year Award is awarded an AU\$1000 scholarship provided by Wiley and the runner-up is awarded an AU\$500 scholarship provided by Thermo Fisher Scientific.

in October 2017.¹ In this study, Ms Burnett et al. characterised the effect of lipopolysaccharideresponsive beige-like anchor (LRBA) deficiency on immune cell development and responses in mice. In humans, LRBA deficiency causes a primary immune regulatory disorder characterised by a polymorphous autoimmune syndrome. Surprisingly, Ms Burnett found that LRBA-deficiency in mice did not lead to immune dysregulation and autoimmunity despite the reduction in CTLA-4 expression on regulatory T cells. A key strength of this study is in the global assessment

on immune responses in mice with homozygous deficiency and in chimeric mice to understand whether homeostatic compensation could explain their findings. Highlighting the high interest in this topic, a complementary study by Bodo Grimbacker's group² was published in the same issue of Immunology & Cell Biology along with a News & Commentary by Michael Jordan³. Together these studies emphasise the need for caution when modelling systems under different selective pressures.

Dr Chuluundorj's Original Article 'Glatiramer acetate treatment normalized the monocyte activation profile in MS patients to that of healthy controls', was published in March 2017, is the winner of the Thermo Fisher Scientific Publication Award for 2017.⁴ Dr Chuluundorj and colleagues investigated how

administration of glatiramer acetate (GA), a disease-modifying therapy for multiple sclerosis (MS), may alter monocyte activation in vivo and in vitro. Comparing the activation state of monocytes, ex vivo, Dr Chuluundorj found that monocytes from MS patients not receiving any disease-modifying therapy had an activated phenotype, but the phenotype of monocytes from patients receiving GA was similar to that of monocytes from healthy subjects. The novelty of this study lies in correlating in vivo and in vitro findings and in the dissection of the role of classical versus nonclassical monocyte subsets in this system.

The award-winning papers of Ms Burnett and Dr Chuluundorj highlight the outstanding quality of the work published in *Immunology & Cell Biology*. My very best congratulations are extended to the awardees on their success. I also thank our sponsors Wiley and Thermo Fisher Scientific for their continued support of outstanding science and scientists and the journal. It is hoped that the outstanding quality of these awarded publications will also encourage others to consider *Immunology & Cell Biology* as a key journal for their cutting-edge research.

1. Burnett DL, Parish IA, Masle-Farquhar E, Brink R, Goodnow CC. Murine LRBAdeficiency causes CTLA-4 deficiency in Tregs without progression to immune dysregulation. *Immunol Cell Biol* 2017; **95**: 775-788.

2. Gámez-Díaz L, Neumann J, Jäger F, Proietti M, Felber F, Soulas-Sprauel P, Perruzza L, Grassi F, Kögl T, Aichele P, Kilimann M, Grimbacher B, Jung S. *Immunol Cell Biol* 2017; **95**: 789-802.

3. Jordan MB. Modeling primary immune regulatory disorders: Ferrari or Yugo? *Immunol Cell Biol* 2017; **95**: 739-740.

4. Chuluundorj D, Harding SA, Abernethy D, La Flamme AC. Glatiramer acetate treatment normalized the monocyte activation profile in MS patients to that of healthy controls. *Immunol Cell Biol* 2017; **95**: 297-305.

ORIGINAL ARTICLE

Murine LRBA deficiency causes CTLA-4 deficiency in Tregs without progression to immune dysregulation

Deborah L Burnett¹, Ian A Parish², Etienne Masle-Farquhar¹, Robert Brink¹ and Christopher C Goodnow¹

Inherited mutations in lipopolysaccharide-responsive beige-like anchor (*LRBA*) cause a recessive human immune dysregulation syndrome with memory B-cell and antibody deficiency (common variable immunodeficiency), inflammatory bowel disease, enlarged spleen and lymph nodes, accumulation of activated T cells and multiple autoimmune diseases. To understand the pathogenesis of the syndrome, C57BL/6 mice carrying a homozygous truncating mutation in *Lrba* were produced using CRISPR/Cas9-mediated gene targeting. These mice revealed that LRBA has a critical, cell-autonomous role in promoting cytotoxic T-lymphocyte antigen-4 (CTLA-4) accumulation within CD4 effector T cells and FOXP3⁺ T-regulatory cells (Tregs). In young mice, or in chimeric mice where only half of the T cells are LRBA deficient, low CTLA-4 was the only detectable abnormality in Tregs, whereas in old mice FOXP3 was also decreased. Low CTLA-4 did not translate into increased CD86 on B cells unless the LRBA-deficient mice were immunised, and neither immunisation nor chronic lymphocytic choriomeningitis virus infection precipitated immune dysregulation. LRBA deficiency did not alter antigen-specific B-cell activation, germinal centre (GC) formation, isotype switching or affinity maturation. Paradoxically, CD86 was decreased on GC B cells in LRBA-deficient mice, pointing to compensatory mechanisms for controlling CD86 in the face of low CTLA-4. These results add to the experimental rationale for treating LRBA deficiency with the CTLA4-Ig fusion protein, Abatacept, and pose questions about the limitations of laboratory experiments in mice to reproduce human disease *in natura*.

Immunology and Cell Biology (2017) 95, 775–788; doi:10.1038/icb.2017.50



MS DEBORAH BURNETT, RECIPIENT OF THE 2017 CHRIS AND BHAMA PARISH ICB PUBLICATION OF THE YEAR AWARD. Deborah Burnett undertook her undergraduate training as a veterinarian at the University of Sydney. She completed an honours project working with Professor Benjamin Kile and Professor Andreas Strasser at the Walter and Eliza Hall Institute, investigating the role of the extrinsic apoptotic pathway on platelet and megakaryocyte apoptosis. Following her undergraduate training she then spent several years working as a veterinarian in both New Zealand and Australia, before she moved to Sydney to undertake a full time PhD in the laboratory of Professor Christoper Goodnow at the Garvan Institute of Medical Research. For the last three years her work has revolved around two main focuses, understanding the role of anergic B cells, particularly in regards to their redemption and mutation away from self-reactivity, and conversely, understanding how the immune system becomes perturbed during inherited autoimmune diseases, such as LRBA deficiency.

ORIGINAL ARTICLE

Glatiramer acetate treatment normalized the monocyte activation profile in MS patients to that of healthy controls

Delgertsetseg Chuluundorj^{1,4}, Scott A Harding^{1,2}, David Abernethy² and Anne Camille La Flamme^{1,3}

Multiple sclerosis (MS) is an immune-mediated disease of the central nervous system, and monocytes contribute to MS-associated neuroinflammation. While classically activated monocytes promote inflammation, type II-activated monocytes improve the course of MS. This study investigated type II activation of monocytes and their two main subsets, namely CD14⁺ (CD14⁺⁺CD16⁻ subset) and CD16⁺ monocytes (CD14⁺CD16⁺ subset), by glatiramer acetate (GA) or intravenous immunoglobulinassociated immune complexes (IC), both of which are known MS treatments. Total monocytes and subsets were isolated from peripheral blood mononuclear cells (PBMC) of healthy controls, untreated MS patients (MS) and GA-treated MS patients (GA-MS). In contrast to the more activated *ex vivo* profile of monocytes from the MS group, monocytes from the GA-MS group resembled those from healthy controls. *In vitro* type II activation with GA primarily reduced CD40, CD86 and IL-12p40 whereas type II activation with IC consistently reduced CD40 but increased interleukin-10 (IL-10), suggesting that the GA and IC activation pathways are distinct. Moreover, while GA treatment reduced IL-12p40 by both CD14⁺ and CD16⁺ subsets, IC treatment only enhanced IL-10 by the CD16⁺ subset. Further analysis of the CD16⁺ subset revealed that MS patients had a greatly expanded CD14⁺CD16^{int} population while both CD14⁺CD16^{int} and CD16^{high} monocyte populations were expanded in GA-MS patients. Finally, a global analysis of the *ex vivo* monocyte data indicated that GA treatment distinctly altered the monocyte profile of MS patients, further supporting the idea that GA directly targets monocytes. *Immunology and Cell Biology* (2017) **95**, 297–305; doi:10.1038/icb.2016.99

"My primary research area is multidisciplinary neuroscience, including neuro-immunology, neuro-physiology, neuropsychology and neuro-linguistics. Specifically, I am interested in basic research on immune, biological and cognitive changes of patients with multiple sclerosis, aphasia and dementia. I seek to find not only medical, but also non-medical approaches (such as mindfulness and language training, etc.) to improve mental health of those suffering from multiple sclerosis, aphasia and dementia."



DR DELGERTSETSEG CHULUUNDORJ, THE RECIPIENT OF THE 2017 THERMO FISHER SCIENTIFIC PUBLICATION AWARD.

THE IUIS CORNER

J. ALEJANDRO LOPEZ

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





International Union of Immunological Societies

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.

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

IUIS NEWSLETTER

The latest issue of the IUIS newsletter is available from this link <u>https://mailchi.mp/kit-group/</u> iuis-online-and-around-theworld-1081905

You may wish to subscribe to receive the newsletter directly to your letterbox: If you wish to receive the IUIS Newsletter, please click SUBSCRIBE or scan the QR code:



IMMUNOPAEDIA

The Youtube channel of Immunopaedia is up and running. It is a very attractive window to present your research to a very eager audience of immunologists around the world. Videos available include conversations with Gabriel Rabinovich, Stanley Plotkin and Alberto Mantovani. <u>Click here to</u> <u>check them out!</u>

Similarly, on the educational front, very encouraging audio interviews are made available via the following platform: <u>https://www. immunopaedia.org.za/interviews/</u> audio-interviews/

The latest interview showcases Susan K Pierce (chief of the Laboratory of Immunogenetics at the National Institute of Allergy and Infectious Diseases).

The number of immunological societies members of IUIS is in the process of increase as several nominations are currently under consideration and will be soon voted on.

FRONTIERS OF IMMUNOLOGY IMPACT

Frontiers of Immunology continues to excel in the rankings. The latest analysis placed Frontiers in Immunology as the most cited open access journal in the field of immunology with over 58,000 citations of the 6,300 papers published. These are some of the statistics about its impact:

- The world's 6th most-cited journal — and most-cited openaccess journal — in the JCR category of Immunology, with 6,547 citations in 2017 to 1,811 articles published in 2015 and 2016
- The world's 3rd most-cited journal and most-cited openaccess journal — in the CiteScore category of Immunology & Allergy, with 11,153 citations in 2017 to 1,984 articles published in 2014, 2015 and 2016
- The world's 7th most-cited journal and 2nd most-cited open-access journal — in the CiteScore category of Immunology

The complete analysis of its impact could be found here: <u>https://blog.frontiersin.</u> org/2018/07/06/journal-impactfactor-frontiers-in-immunology/

MEMBERSHIPS BEING CONSIDERED

The number of immunological societies members of IUIS is in the process of increase as several nominations are currently under consideration and will be soon voted on. They include:

- Algeria Algerian Society of Immunology
- Bosnia and Herzegovina -Association of Immunology in Bosnia & Herzegovina
- Chile Chilean Association of Immunology (ASOCHIN)
- Ivory Coast Society of Clinical and Biological Immunology of Côte d'Ivoire
- Kazakhstan Kazahkstan Association of Allergology and Clinical Immunology
- Luxemburg Luxembourg Society for Allergology and Immunology



17th International Congress of Immunology October 18-23, 2019 | Beijing, China

IUIS 2019 Beijing (The 17th International Congress of Immunology) will take place at the Chinese National Convention Centre in Beijing, from October 18 - 23, 2019

The Steering committee is made out of: Chair of Steering and Scientific Programme Committees, Xuetao Cao (General Secretary CSI); Vice-Chair, Alberto Mantovani (President IUIS); and Secretary Zhigang Tian (President of the CSI). Jorge Kalil will act as advisor to the Scientific Programme Committee

Important dates:

Early Registration opens November 2018 Abstract Submission opens September 2018 iuis2019.org



Welcome to the new era of single cell analysis! As personalized medicine and other highly specialized life science and medical applications continue to advance, there is an increasing demand to develop cutting edge technologies.

As such, BioLegend now offers TotalSeg[™] antibodies. These antibody-oligonucleotide conjugates seamlessly integrate with existing protocols (e.g. CITE-seg and REAPseq) aimed at generating protein and RNA measurement simultaneously, from the same single cell. Each antibody clone is permanently associated with a unique barcode.

TotalSeq[™] antibodies facilitate:

- High-Throughput Single Cell Proteogenomics
- Simultaneous Measurement of Protein and RNA
- Reduced Dropouts as compared to **RNA** analysis only
- Enhanced Cell Type Identification
- Easy Sample Multiplexing

World-Class Quality | Superior Customer Support | Outstanding Value

08-0074-11

2017 BURNET ORATOR HIGHLIGHTS FROM 46TH ASI ANNUAL MEETING PROFESSOR LYNN CORCORAN



ME WITH THE FAMILY'S PET CHAMELEON. VEGGIE GARDEN IN THE BACKGROUND.

I grew up in a big family, spending much of my time outdoors with my siblings and the neighbourhood kids. I cannot remember a time when I was not keen on biology, even if it was just looking at frogs in the Minnesota lakes, cultivating our home garden, watching the leaves change colour or wondering at the diversity of snowflakes. Science was always part of my choices at school, without my ever understanding what being a scientist meant. That only started once I finished my BSc(Hons) degree in Biochemistry and Genetics at the University of Melbourne in 1978.

During that time, I discovered the Walter and Eliza Hall Institute (WEHI), just across the street. I was trying to become a molecular biologist. It was very early days for the discipline, and reagents were rare. I needed some DNA ligase to clone genes for aromatic amino biosynthesis in E. coli for my Honours project, and the only person who had ligase was Dr Dave Kemp at WEHI. (He made it himself...typical of him). I decided that any further study should happen where the ligase was, so I went there for my PhD.

At WEHI, I didn't learn much immunology first hand, though I was exposed to it in our seminars. But with Dr Jerry Adams, I learned about B cells: first the genes and rearrangements of the immunoglobulin genes, then the aberrations of this process that are exploited in B lymphomas to activate the *c-myc* oncogene. Myc became a focus, as we found that it could drive transformation of both B and T cells simply by constitutive expression, and both retroviral integration and Ig gene rearrangement machinery



(L TO R) HUSBAND TIM, DR TED BIANCO, THE LATE PROF DAVE KEMP, DR PETER MCINTYRE AND ME AT PRINCESS PARK (CARLTON VS THE MIGHTY HAWKS).

- 15

could contribute to this. A close collaboration with Ralph Brinster and Richard Palmiter, makers of some of the earliest transgenic mice in the world, allowed us to prove how dangerous activated Mvc was, when we watched our Eµ-myc mice develop lymphomas, rapidly and inexorably. (These mice also taught me where the lymph nodes, spleen and thymus resided, as these were uniformly enlarged in sick mice due to the large numbers of B cells expanding in the animals). More than 30 years later, I was invited to join studies with Drs Susanne Heinzel and Phil Hodgkin proving the role of Myc as a cell division timer in lymphocytes, in a way completing the circle started in my PhD studies that revealed Myc as an oncogene.



DR SU HEINZEL AND ME HAPPILY COLLABORATING ON MYC AND CELL DIVISION CONTROL AT WEHI.

Dave Kemp was an irresistible fellow, so bright, driven and inventive. He and a small band of "molecular parasitologists" - this was a new thing in 1984 - at WEHI had just won a huge MacArthur Foundation grant to explore the molecular genetics of the malaria parasite. I jumped on the bandwagon for my first postdoc. Dave and I built machines and ran gels to separate and map the



DAVID BALTIMORE (CENTRE) WITH FELLOW POSTDOCS (L TO R) DRS KEES MURRE, MARK SCHLISSEL, SANKAR GHOSH, DAVID SCHATZ, ME AT COLD SPRING HARBOR.

chromosomes of Plasmodium falciparum, and found them remarkably changeable. (It turns out that this reflected a strategy of antigenic variation for the parasite). In order to get the system to work, Dave sent me to Columbia University to a lab that had the gel system working for another protozoan. It required some espionage to get the lot number and source of Agarose gel powder that made it all work. We got Cell, Science and Nature papers out of it, so Dave was happy.

Finally the imperative of the overseas postdoc won out, and I benefitted from a friendship between my mentors Jerry Adams and Suzanne Cory with Nobel Laureate Prof David Baltimore (Whitehead Institute, MIT, Boston). David accepted me immediately, and I stayed in his lab for 4 years (with time out for maternity leave). It was an amazing time. of brilliant colleagues and friends, learning cutting edge new methods (including cloning DNA binding proteins and making knockout mice), and playing softball with Nobel Prize winners (pitcher, catcher and third base). Making microiniection tools in the basement was fun, but losing a day's ES cell injected blastocysts in a second when a micropipette snapped in half and spun across the room was not. This was a time for learning autonomy, forging valuable relationships and developing the hard headed determination and optimism that keeps scientists going.



EUREKA PRIZE WINNERS FOR SCIENTIFIC RESEARCH, 2014 (L TO R): STEVE NUTT, ME, PHIL HODGKIN, DAVID TARLINTON.

My husband is a psychologist, and through him I have learned how I operate as a person and as a professional...identifying my strong personal preferences. I am sequential, detail oriented, and kinaesthetic (meaning I like to use my hands). This explains my passions for my hobbies of pottery, gardening, sewing and cooking), and has led me to remain a bench scientist throughout my career. My focus on details and sequential thinking also explains to me one of my shortcomings, as I am less able to see big pictures and abstract ideas than my brilliant colleagues. I am keenly aware that progress in science takes a variety of talents, and they rarely all reside in a single individual. I have been so lucky to be part of a complementary team of B cell biologists (with Phil Hodgkin, Stephen Nutt and David Tarlinton). We are quite different people with different skills, but each respects what the others bring to our collaboration.

I have worked with wonderful colleagues, many of them women. In 2009 WEHI director Doug Hilton asked me to chair a committee to help support female scientists to stay and prosper in their scientific careers at our institute. With my co-chair Prof Terry Speed, and great committee members, we have put in place a number of initiatives that seem to be helping, as the proportions of WEHI women in leadership roles is gradually (albeit slowly) increasing. I am most proud of our new childcare centre, the newly opened Professor Lynn Corcoran Early Learning Centre. As my daughter commented, only I and Walter and Eliza Hall have buildings named after them on our site. It is such a great effort by WEHI, and a lovely way to finish my (mostly) happy scientific career there. ■



ON FISHNET STOCKING DAY (A FUNDRAISER): KYLIE JORDON (BSCHONS STUDENT), KATHY D'COSTA (RA), DR INGELA VIKSTROM, ME, DR DIANNE EMSLIE, DR KIRSTEN FAIRFAX, KRISTY O'DONNELL (RA)

Get a clearer picture



Used to high resolution? Your IHC images should be no different. Our E Cadherin RabMab® antibody showed exceptional sensitivity compared to the leading competitor.

See more data at www.abcam.com/best-cancer-abs

JARED PURTON AWARD RECIPIENT 2017

RESEARCH VISIT TO MAHIDOL UNIVERSITY BANGKOK, THAILAND, 1-21 JANUARY 2018

RHEA LONGLEY

Population Health and Immunity Division The Walter and Eliza Hall Institute of Medical Research E: <u>Longley.r@wehi.edu.au</u> Twitter: @rhea_longley

This year I was fortunate enough to be one of the recipients of the Jared Purton Award. This award is in memory of Jared Purton, kindly provided to ASI by Jared's parents, with the purpose to support early to midcareer researchers at a critical point in their career. I chose to use the funding this year to support a research visit to work with collaborators for 3 weeks in January, I visited the laboratory of Professor Jetsumon Sattabongkot, a leader in field-based malaria research and also my former postdoctoral supervisor. With support from this award, I travelled to Bangkok, Thailand, along with my then 10-month old daughter. My husband is a school teacher so we thankfully managed to align this trip with school holidays, and embarked on this adventure as a family.

After surviving the 8-hour flight with our baby, we had a few days over New Years to settle into life in Bangkok before I began work at the Mahidol Vivax Research Unit at Mahidol University. My plan for this research visit was to extend my current work on the development of novel serological markers for detection of recent malaria infections, specifically infections caused by *Plasmodium* vivax. P. vivax parasites have an arrested liver-stage, known as hypnozoites, which can cause relapsing malaria infections months to years after the initial mosquito bite. Hypnozoites are not detectable using any diagnostic method, and thus these parasites are a unique barrier to malaria elimination. I have spent most of the past four years selecting P. vivax proteins that give specific signatures of recent exposure to infection (within the previous 9-months), and I wanted

My first job was to get the multiplex assay we use to measure antibody responses up and running in Bangkok. Most samples from large field-studies in malaria-endemic regions only take a small amount of blood from each individual, by a simple finger-prick



DR RHEA LONGLEY, JARED PURTON AWARD RECIPIENT 2017

to validate these markers in a larger experiment.

My first job was to get the multiplex assay we use to measure antibody responses up and running in Bangkok. Most samples from large field-studies in malaria-endemic regions only take a small amount of blood from each individual, by a simple finger-prick. We use the Luminex[®] technology to measure antibody responses to multiple proteins at once with only 1µl of plasma. Between Christmas and New Years I coupled 23 P. vivax proteins to Luminex[®] beads of unique colours, and these reagents accompanied me to Bangkok. I instructed Mahidol University PhD student Jenni Hietanen and Mahidol Vivax Research Unit staff member Chalermpon Kumpitak how to run the assay and do the required quality control checks, and we set up a system for sharing results between us. Over the next few weeks we managed to run just over 1000 samples from a 2012 cross-sectional survey conducted in western Thailand. Once I flew back to Melbourne. my collaborators in Bangkok ran another 3000 samples by the end of March to complete the entire survey population. We now have antibody data against 23 different P. vivax proteins for all of these individuals!

We hope to use the antibody signatures to identify "hot-spots" of infection, and compare these results to traditional epidemiological and molecular methods that were used to detect infections at the time the survey was conducted.

A highlight of my visit was meeting my fellow postdoctoral scientist, Sadudee Chotirat. Sadudee was interviewing for her position at Mahidol University whilst I was there, and I had the opportunity to speak with her about my research and teach her the antibody assay in the laboratory. She got the job, and we are now working together, Skyping regularly and making plans for how to best analyse all of the data that we have generated. We hope to use the antibody signatures to identify "hotspots" of infection, and compare these results to traditional

epidemiological and molecular methods that were used to detect infections at the time the survey was conducted. I also, of course, enjoyed the relaxed lifestyle we were able to lead for our month in Bangkok – cheap delicious food available at all hours that you don't have to cook, perfect when you've got a baby in tow!

This visit enabled me to cement my collaboration with Professor Sattabongkot's group and to spend time designing new projects that we could do together. My PhD student Zoe Liu is now going to visit the same laboratory in October to generate some preliminary data for one of the new projects we discussed, supported by her own travel award from the newly established Australian Centre of Research Excellence in Malaria Elimination. At the conclusion of my trip I was thrilled to also be invited back to Bangkok next January by Professor Sattabongkot. who offered to cover the costs of this trip through her own research funding. Overall this trip was immensely valuable to me, and I want to give my thanks again to both Jared's family and ASI for providing me with this opportunity.



"I'M AN IMMUNOLOGIST" Asi social media promotional campaign

DR GABRIELA KHOURY ASI social media manager

July marked the exciting launch of "I am an Immunologist" a promotional campaign to help the public become more familiar with what immunologists do. It has been an honour to showcase our members in the twittersphere and on facebook. The responses to the posts have been fantastic, with interest from science communication accounts, research institutes, to women in STEM organisations and everything in between. More locally, I've received feedback by ASI members who said it was a great way to learn about what other members were doing.

It's also been amazing to see some of our featured members embrace participating in "a day in the life of an immunologist" where they share daily posts on their immunology antics during their featured week. You can see some of the posts from Catriona Nguyen-Robertson, Claudia Stocks and Jarrod Kennedy in this article who gave twitter an insight into what an Immunologist does.

"I am an immunologist" will be a regular feature on our social media channels and the Expression of Interest is continually open for all members to sign up. Please note that we have had so much interest from the first call that you may not get featured straight away! Remember you need to be a financial member to be featured, so make sure your membership is kept up to date.

If you are interested in being featured in the future, please complete the following Expression of Interest questionnaire.

In the meantime, checkout #IAmAnImmunologist for regular posts and help promote ASI immunologists.

If you have any questions please contact Dr Gabriela Khoury, ASI social media manager.



Follow

Magic! Cell culture this morning made one flask into three Thanks go to @ScientistTess for letting me borrow her colourful rack (w/o permission)

Stay tuned for tomorrow when these cells get to know your immune cells... a little too well!

@ASImmunology #IAmAnImmunologist



3 Retweets 9 Likes 🛠 🐄 🐮 🤀 🔮 🛞 🖗 📽 🧟



BECOME A MEDICAL SCIENCE LIAISON

AND TALK IMMUNOLOGY WITH THE TOP CLINICIANS FOR A \$120k+ SALARY



CLICK <u>HERE</u>, TO JOIN OUR FREE MSL WEBINAR IN OCTOBER AND LEARN HOW TO BECOME AN MSL

www.fromSCIENCEtoPHARMA.com

WOMEN'S INITIATIVE AWARD RECIPIENT

46TH ASI ANNUAL MEETING, BRISBANE PROMODA PERERA



PROMODA PERERA, WI AWARD RECIPIENT 2017.

I was thrilled to be one of the recipients of the first round of ASI Women's Initiative Award for the 46th annual ASI meeting held in Brisbane 2017. As a postgraduate student and a mother of two young children, I admired and appreciated ASI for recognising that alternative carer arrangement is necessary for mothers with family attending these annual meetings. I would also like to thank the ASI Women's Initiative Councillor, Dr Vanessa Bryant for organising this thoughtful award and personally welcoming the awardees and their families at the meeting. I appreciated the flexibility to use the award funds to cover childcare fees for my two children. This enabled me to travel early to Brisbane and attend the postgraduate workshops from

the very first day and attend the entire meeting without having to worry about the wellbeing of my family.

The scientific program from the annual meeting was of high guality, with keynote lectures from national and international invited speakers. As an immunology student from the University of Tasmania, it was a very proud moment to listen to our very own Prof Greg Woods' captivating talk on Devil Facial Tumour Disease. Out of the many interesting workshops, I was empowered and inspired by the Women in Technology Life Skills for Research workshop. The invited female speakers gave excellent advice drawn from life experiences as women in leadership. Another



PRESENTING MY WORK DURING POSTER SESSION



WITH OTHER FELLOW WI RECIPIENTS AT THE ASI MEETING.

unique social highlight of the meeting was the affordable conference dinner organized for postgraduate students. The standing dinner was an excellent opportunity for me to mingle with fellow Australasian students and discuss our projects and make new friends.

My research focuses on investigating the role of NLRP3 inflammasome in gut inflammation and I was excited to listen to the recent findings of cutting-edge research on innate immunity, microbiota and signalling pathways. A personal highlight of the meeting was presenting my research work to scientists in my research field. Buoyed by the insightful discussions and constructive feedback, I recently published my work in Scientific Reports, where we revealed the efficacy of small molecule inhibitor MCC950 in attenuating colitis.

To be a mother and a postgraduate student is not for the faint-hearted. To be successful in both these important areas I have developed skills in multitasking, organisation, lateral thinking and time management. However, balancing research and caring for my children would have been impossible if not for the unwavering support of my husband Shantha Jayasinghe. I am also very fortunate to work with understanding and talented colleagues in the school of health sciences at the University of Tasmania. I would like to express my gratitude to my supervisor, Associate professor Raj Eri for his understanding and constant encouragement.

Finally, I would like to take this opportunity to encourage all immunology mothers to sign up for ASI membership and apply for the Women's Initiative travel award for the upcoming 47th annual meeting to be held in Perth from 2-6 December 2018. ■



PICTURE WITH MY FAMILY



PROUD RESEARCH MOTHERS IN MY LAB!



TRAVEL REPORTS

PHARMAXIS-ASI TRAVEL BURSARY WINNER 2017 46th ASI Annual Meeting, Brisbane

MARIOS KOUTSAKOS

E: <u>mkoutsakos@student.unimelb.edu.au</u>

I obtained my BSc in Biomedical Sciences at Imperial College in London, where I worked with Prof. Wendy Barclay on the molecular virology of influenza B viruses. I then obtained my Masters degree in Systems and Synthetic biology, also at the Imperial College. I then moved to Australia for my PhD, joining the group of Prof. Katherine Kedzierska. My PhD work focuses on understanding protective immunity to influenza viruses, especially the understudied but clinically relevant influenza B viruses.

2018 marked the 100th year since the world's deadliest influenza pandemic, the Spanish flu. Despite intense research and major discoveries since 1918, including the isolation of influenza viruses. the development of an inactivated and live-attenuated vaccines, and a plethora of studies on immune and genetic correlates of protection, influenza viruses remain a constant global health threat. Indeed, ~500,000 people die from influenza infection annually, and more than 1 million get infected with the seasonal influenza A or B viruses (IAV and IBV, respectively).

Current vaccination strategies engender strain-specific humoral immunity. However, the vast



STRAIN-SPECIFIC ANTIBODIES CAN PROVIDE STERILIZING IMMUNITY BY PREVENTING INFECTION. HOWEVER, DUE TO ANTIGENIC DIVERSITY AND EVOLUTION, INFLUENZA VIRUSES OFTEN EVADE THIS PROTECTIVE BARRIER. FOLLOWING INFECTION, IMMUNE PROTECTION IS MEDIATED BY BROADLY CROSS-REACTIVE ANTIBODIES, WHICH ACTIVATE INNATE IMMUNE CELLS VIA FC RECEPTOR INTERACTIONS, AND BROADLY CROSS-REACTIVE CYTOTOXIC CD8+ T CELLS. THE PRESENCE OF MUCOSAL ANTIBODIES AND AIRWAY-RESIDENT MEMORY CD8+ T CELLS IS IMPORTANT FOR MEDIATING EARLY PROTECTION FROM DISEASE. THESE RESPONSES ARE COMPLEMENTED BY THE RECALL OF PRE-EXISTING MEMORY B CELLS AND T CELLS IN SECONDARY LYMPHOID ORGANS. THE ESTABLISHMENT OF SUCH BROADLY CROSS-REACTIVE MEMORY POPULATIONS IS CENTRAL TO THE DESIGN OF UNIVERSAL INFLUENZA VACCINE.

antigenic diversity and genetic unpredictability of these viruses render the vaccine outdated and requires their annual reformulation. Thus, the search for an universal influenza vaccine, one that can confer broad and longlasting immunity across multiple influenza viruses, has been a field of rigorous research over the last few years. My research focuses on understanding how different immune modalities, like B cells and T cells, can contribute to universal immunity to influenza viruses and how this can be harnessed by vaccination. During my PhD studies in the laboratory of Prof. Katherine Kedzierska, we have demonstrated that the current inactivated vaccine induces a three-pronged B cell response of memory and antibody-secreting cells as well as CD4+ T-follicular helper cells, but it does not promote CD8+ T cell immunity, a key contributor to universal immunity. Thus, novel vaccine formulations are needed to exploit the potential of broadly cross-reactive T cells.

For the rational design of a universal influenza vaccine, highly conserved immune epitopes need to be identified. While, multiple CD8+ T cell epitopes have been identified for IAV, CD8+ T cell responses to the clinically relevant IBV are understudied. Additionally, the true breadth of CD8+ T cell cross-reactivity across IAV and IBV, is unknown. During my PhD studies, we demonstrated that CD8+ T cells can confer unprecedented cross-reactivity across highly divergent types of influenza viruses, including IAV and IBV. Using this information,

My research focuses on understanding how different immune modalities, like B cells and T cells, can contribute to universal immunity to influenza viruses and how this can be harnessed by vaccination.

novel vaccines can be generated that harness the ability of CD8+ T cells to promote recovery and protection and will not require administration on an annual basis. Importantly, such vaccines could offer protection during annual seasonal epidemics as well as the next inevitable influenza pandemic, regardless of what type of influenza virus is responsible. Thus, our work addresses one of the key challenges currently faced by contemporary vaccines against influenza.



MARIO KOUTSTAKOS WITH SUPERVISOR DR KATHERINE KEDZIERSKA



MysteryBox Rally

We are extremely happy to announce that Jomar Life Research is taking part in Mystery Box Rally, October 20 - 24 2018!! Mystery Box Rally is one of the largest community lead fundraising events for the Cancer Council in Australia, having raised over \$2.7 million in the last 5 years.



THE RALLY TEAM

Sarah Fardy and Sue Ang from JLR are taking part in the 5 day car-convoy to mystery locations across the Australian Outback to raise money for Cancer research!

THE CAR

A 1993 Ford Telstar without power steering! The car has been named "**The Slow and the Curious**" by comp winner Jo Pooley from Monash University, who receives a \$500 reagents prize!



SHARE & WE GIVE \$5

We hope you're enjoying Scientists in a \$h!tBox Spelling it Out - A new YouTube Series for Scientists.











JOMAR LIFE RESEARCH Imore Drive, Scoresby VIC 3179 1 300 543 373 www.llresearch.com au/sss

ASI INTERNATIONAL TRAVEL AWARD RECIPIENT – TRAVEL REPORT Keystone Symposium on Translational Systems Immunology Jan 28 – Feb 2, 2018, Snowbird, Utah, USA

KELVIN (ZEWEN) TUONG

Frazer Lab, The University of Queensland Diamantina Institute, Translational Research Institute E: <u>z.tuong@uq.edu.au</u>



CONFERENCE LOCATION - SNOWBIRD SKI RESORT

In January-February 2018, I travelled to Utah, USA, to attend the Translational Systems Immunology Keystone Symposium. The conference was held at the Snowbird Ski Resort and it focussed on the recent advances in molecular characterization of the immune system and human genetics. My research interest is in understanding the molecular control of immunological functions in the skin using high-throughput sequencing technology. In particular, I was very interested to see how technological advances are being translated into practical applications in drug and biomarker discovery and in patient stratification.

It was a small meeting with about 100-200 participants, mostly from USA, with a mix of immunologists, computational biologists, statisticians, clinicians and also a fairly large presence by the pharmaceutical industry – Sanofi alone had 25 participants from their offices all over the world! It reflects the overwhelming interest in the field of translational immunology and immunotherapy and the 'real' translational potential in this area of research. There were two other participants from Australia. If this was not



MYSELF WITH THE CITY OF SEATTLE IN THE BACKGROUND.

coincidental enough, they were also based in Queensland (JCU and QIMR-B) and at some point - current or prior - had worked in research institutes in Brisbane!

The conference featured many outstanding speakers who covered a wide range of topics, including the advancement in human genetics and sequencing for patient stratification, classifying rare immune phenotypes, computational methods for predicting T/B cell receptor VDJ recombinations, and the complexity of allo-immunity using single-cell RNA-sequencing approaches. The latter was one of the more interesting talks for me at the meeting; Dr Scott Furlan (UWash, Seattle) presented an interesting project that used single-cell sequencing technology to discover how alloproliferating T cells behave during graft versus host disease in human patients.

It was a small meeting with about 100-200 participants, mostly from USA, with a mix of immunologists, computational biologists, statisticians, clinicians and also a fairly large presence by the pharmaceutical industry

The standout talk in the meeting for me was the topic on the 'human knockout project', presented by Dr Danish Saleheen (UPenn, Philadelphia). The project/bioresource has been published in prestigious journals such as *Nature* and *The New England Journal of Medicine*, and

It reflects the overwhelming interest in the field of translational immunology and immunotherapy and the 'real' translational potential in this area of research.

involved ~100k actively recruited participants from Pakistan. Dr Saleheen described one study where they performed whole exome sequencing (WES) on 1000 individuals to identify human knockouts (haploinsufficiency). Because ~40-50% of close kin marriages in Pakistan are consanguineous, he was able to identify >50 individuals that were protected from cardiovascular disease due to being 'APOC3' knockouts. Comparatively, the European WES Ancestry (ExAC; Exome Aggregation Consortium) of ~60000 unrelated individuals had no APOC3 knockouts. The meeting definitely opened my eyes to the cross-disciplinary nature and translational potential of this area of research.

After the meeting, I flew to Seattle to visit the Fred Hutchinson Cancer Research Center where



WALKING TO MY SEMINAR AT THE FRED HUTCHINSON CANCER RESEARCH CENTER.

I gave a scientific seminar to the HPV research community in Seattle about the work I am doing in Brisbane. My host was Prof. Denise Galloway, a longtime friend and colleague of Prof. Ian Frazer and part of the international team that contributed to the development of the cervical cancer vaccine. We discussed a range of topics, including the use of new single-

CONTRACTOR OF CO

THE QUEUE LINING UP FOR COFFEE AND SOUVENIRS AT THE FIRST STARBUCKS SHOP IN SEATTLE AND THE WORLD.

cell technologies in investigating adaptive responses in skin cancer and I had lunch with her lab and also joined in their lab meeting. I was also introduced to Dr Margaret Madeleine (Fred Hutch), Dr Lisa Frenkel (UWash) and Dr Rachel Katzenellenbogen (Seattle Children's Hospital) who were all eager to discuss all things HPV and infectious diseases! In particular, Dr Madeleine is an epidemiologist who collaborates with Prof. Frazer and many skin cancer researchers based in Queensland - it was certainly very interesting to meet and assign faces to the names on the papers I have been reading!

Overall, I feel I have learnt a lot from this trip. I am immensely grateful for the ASI International Travel Award, support from Prof. Ian Frazer and my Advance Queensland Fellowship that has allowed me to attend this fantastic meeting and meet with brilliant researchers in Seattle.

ASI JACQUES MILLER TRAVEL AWARD RECIPIENT

ASSOC. PROF. ASHRAFUL HAQUE

QIMR Berghofer Medical Research Institute, 300 Herston Road, Herston, QLD 4006 E: Ashraful.haque@qimrberghofer.edu.au Twitter: @DrAshHaque P: +61 738 453 948

Back in 1963, the Beatles were experiencing a phenomenon commonly termed "Beatlemania". In 1964 they crossed the Atlantic Ocean and subsequently "made it in America". Although I claim absolutely no similarity to the virtuosity or appeal of these 20th century pop icons, I had experienced a modicum of success in 2017, with an Australian NH&MRC grant finally being funded (phew!), and a few senior authorship papers from our group accepted in Science Immunology, PNAS, and PLoS Pathogens. So, for the sake of my CV. I too wanted to make it in America.

I flew to Seattle, where after being shown a number of tourist sights by Dr Nana Minkah (from Stefan Kappe's malaria immunology lab at the Center for Infectious Disease Research), most dubious of which was the wonderfully disgusting "Gum Wall". Hosted by Dr Marion Pepper, I spoke at the University of Washington where I also met a number of lab-heads including a memorable meeting with Prof. Pam Fink, a previous President of the American



VISITING THE WONDERFULLY DISGUSTING GUM WALL IN SEATTLE.



NIH CLOSED DUE TO A SNOWSTORM

Association of Immunologists (AAI). Prof. Fink guided me towards NIH documentation that assists lab-heads provide career advice to lab members, in the form of an "Individual Development Plan". I hope to take on some of these techniques to provide mentorship for my current and future lab members.

Next, I flew from West Coast to East Coast, landing in Washington DC just as warnings of a snowstorm hit the news. And it came to pass that my seminar at NIH, hosted by Dr Peter Crompton, was cancelled due to the institute shutdown, but thankfully hastily re-organised for the following day. It was great to share some vigorous debate during my seminar with Prof. Polly (Danger Theory) Matzinger, as well as hear about all the ground-breaking work that Dr Crompton is conducting with malaria patients at his NIH study site in Mali. I think the malaria immunology community will be blessed with some great human

malaria studies from his group in the coming months. Next, I took the Amtrak train to Baltimore, where Prof. Fidel Zavala, a pioneer in liver-stage immunity to malaria, hosted my seminar at the Johns Hopkins Malaria Research Institute. The seminar was extremely well attended, but I cannot be sure whether my topic or the free alcoholic beverages were the main attraction!

Having been shown that Baltimore is much, much more than the gun crime that usually dominates the headlines, I was afforded a weekend off work. I headed back to DC, where I was given little option but to experience the "March For Our Lives". I shall say that it was a defining moment in my personal life to hear the grand-daughter of Martin Luther King stand up in front of Capitol Hill and shout that "like my grandfather, I too have a dream!" – emotional stuff.

Back to work! I flew into the heartland of America, to the University of Iowa, where A/Prof. Noah Butler, an emerging leader in malaria immunology, was my host.



A SUNNY MORNING IN BALTIMORE



FLYING TO UNI OF IOWA



BEAUTIFUL STANFORD

As I flew to Cedar Rapids, Iowa, I could see the flat, farming land, renowned for its production of corn and pigs, was sprinkled with a late seasonal flourish of snow. Despite the cold, the welcome from Noah Butler and his group was warm. It was clear to me that Uni of Iowa has a critical mass of immunologists that sustains a high level of intellectual vibrancy. I was honoured to discuss the complex biology of TRAF3 with Prof. Gail Bishop, another previous AAI president, CD8+ T cell biology in relation to viral infections and sepsis with Steven Varga and Vladamir Badovinac, as well as blood-stage malaria studies by John Harty. Once again, I feel that my seminar on parasite control mechanisms and singlecell genomics must have been successful, since I was awarded with an insulated mug with "BIOHAZARD" inscribed on it!

THE BULL BUCK SEQUOIA IN YOSEMITE

where I spoke at Stanford University. Having been through the snow in DC and Iowa, it was pleasantly familiar (as a Brisbane resident) to return to the sun and palm trees of California! My host was A/Prof. Prasanna Jagannathan, who recently moved to Stanford from UCSF, where he had been conducting some exciting longitudinal studies in malaria patients from Uganda (in Maggie Feeney's lab). Stanford, being the base for Prof. Mark Davis, a strong advocate for mass cytometry, and housing the Beckman Center for innovation in basic science and clinical medicine, was clearly an environment that embraced the idea of using new technologies to provide greater insight into immunology. So, my seminar on the use of single-cell genomics to explore T-cell biology was received reasonably well, although I think researchers are already looking for the next "big thing", which may be a more holistic assessment of single immune cells via transcriptomics, genomics and epigenomics, as well as searching for innovations in single-cell metabolomics and proteomics. Interpreting such large datasets will likely pose a substantial challenge for the next generation of immunologists.

Finally, at the end of my whirlwind tour of the USA, I was afforded a few days off to visit Yosemite National Park, to stand beside one of the top ten widest trees in the world - the Bull Buck giant sequioa, aged ~3000 years - and to ponder the future of singlecell genomics while gazing at the jaw-dropping El Capitan and Half Dome. I am extremely grateful to the ASI community for giving me the opportunity to share my work with many researchers in the USA. I am indebted to A/ Prof. Noah Butler, Uni of Iowa, for persuading malaria researchers around the US to host me, and in most instances to fully fund my accommodation costs. Thank you Marion, Pete, Fidel, Noah and Pras for all your help in hosting me! I also acknowledge the Australian NH&MRC for funding our singlecell work. While I may not have made it big in America, the USA certainly made a big impression on me!



CONTEMPLATING THE FUTURE OF SINGLE CELL GENOMICS IN YOSEMITE VALLEY

Finally, I flew to San Francisco,

BRANCH REPORTS

WA BRANCH REPORT

CONNIE JACKAMAN, WA BRANCH COUNCILLOR



International visiting speakers: Arne Akbar 17th August and Uri Hershberg 6th September

Prof Arne Akbar visited in August, hosted by Connie Jackaman and Delia Nelson. During his visit Prof Akbar met with local researchers across WA institutes/ universities from Curtin Health **Innovation Research Institute** (CHIRI), UWA and Harry Perkins Institute for Medical Research (HPIMR). He gave a fascinating seminar describing their work on rejuvenation of an ageing immune system at Curtin University, Friday 17th August, followed by a sundowner at CHIRI. During his stay we also managed to squeeze in visits to Caversham Wildlife Park, Kings Park Botanical Gardens and Fremantle, as well as a local pub dinner with members from the ASI WA branch committee. Overall, a highly productive visit!

Prof Uri Hershberg visited recently in September, hosted by Jonathan Chee, Joost Lesterhuis and Scott Fisher. He gave a seminar at HPIMR on Thursday 6th September titled: *History will teach us something: Immune* system examples of the effects of different scales of selection pressure. Following his seminar, Prof Hershberg visited with local researchers from Murdoch University, UWA, HPIMR and CHIRI. He also organised an interesting visit with Oron

During his stay we also managed to squeeze in visits to Caversham Wildlife Park, Kings Park Botanical Gardens and Fremantle, as well as a local pub dinner with members from the ASI WA branch committee. Overall, a highly productive visit!

Catts, head of Symbiotica, a collaborative research laboratory focussed on the interface between art and science based at UWA.

Combined Biological Sciences meeting report, 31st August

Immunology was well represented recently at the 28th Annual Combined Biological Sciences Meeting Friday August 31st, 2018, The University Club, UWA. The immunology presentations were opened by invited national speaker, Prof Ben Marsland, who presented his work titled Lung homeostasis: influence of age, microbes and the immune system in the ASI sponsored Immunology symposium. This was followed by four student oral presentations and concluded with two presentations from upcoming local invited speakers Dr. Iona Schuster: Resident and Trafficking Group 1 Innate Lymphoid Cells in Viral Infection and Dr David Martino: Epigenetic dysregulation of naïve T-cell activation in childhood food allergy. Immunology presentations were also a key feature of the New Investigator sessions, ASI WA sponsored four prizes at the conference including Best New Investigator oral presentation awarded to Patricia Macchiaverni, Best Student Oral presentation to Lelinh Duong, Best ECR Poster Prize to Teagan Wagner and Best Student Poster Prize to Jennifer Currenti, All will receive part or full registration costs covered to attend ASI2018 and congratulations to all participants for the high level of presentations throughout the day.

SAVE THE DATES! Upcoming events

Inaugural Pan-Sepsis meeting, 24th October 2018, Perkins Institute

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

NZ BRANCH REPORT RIES LANGLEY, NZ COUNCILLOR



NZ-ASI 2018 Branch Meeting

The 2018 annual meeting of the New Zealand Branch was held in

Queenstown from 26-27 August. This was the first time NZ-ASI had held its meeting as part of the Queenstown Research Week.

The Branch held a joint session on immuno-oncology with the New Zealand Society for Oncology. This was followed by sessions on inflammation, molecular immunology, new technologies in immunology, vaccines, cell signalling, tissue specific immune responses, and infectious disease. The social function at Public Kitchen and Bar was very well attended. Fine food and beverages were enjoyed well into the night at this lakeside bar that specializes in using the best local produce from Southland and Central Otago, hunted in the hills or foraged from the farms around Queenstown.

The meetings attendees had the great privilege of listening to four



THE SPECTACULAR VIEW FROM OUR CONFERENCE ROOM LOOKING OVER THE POSTER TENT AND LAKE WAKATIPU TOWARDS THE REMARKABLES MOUNTAIN RANGE.

outstanding international invited speakers: Professor Catherine Bollard, MBChB, MD, FRACP, FRCPA (Director of the Center for Cancer & Immunology at the Children's National Health System in Washington DC, and The George Washington University School of Medicine and Health Sciences, Washington DC) on T cell therapies for Hematologic Malignancies: Beyond CARs; Professor Peng Li, PhD (Chinese Academy of Sciences' Guangzhou Institute of Biomedicine & Health, and Director of Wellington Zhaotai Therapies Ltd) on A combination of chimeric switchreceptor T cells targeting both



THE NZ-ASI OPENING AND JOINT SESSION ON IMMUNO-ONCOLOGY CHAIRED BY PROF. ROD DUNBAR.

PD-1 and CTLA-4 suppresses tumor growth; Dr. Yury Goltsev, PhD (Department of Microbiology & Immunology, Stanford University School of Medicine, CA) on Dissection of cellular niches by multi-dimensional tissue imaging; and Dr. Alexandra Corbett, PhD (Department of Microbiology and Immunology, Doherty Institute, University of Melbourne) on Potential for vaccination strategies targeting MAIT cells demonstrated by protection against lethal Legionella infection in mice.

Emeritus Professor Frank Griffin from the University of Otago gave this year's Watson Oration. His was a fascinating and highly entertaining talk on a research

The 2018 annual meeting of the New Zealand Branch was held in Queenstown from 26-27 August. This was the first time NZ-ASI had held its meeting as part of the Queenstown Research Week.

career that included the study of mycobacterial diseases in exotic animals ranging from Deer in New Zealand, to Oryx in Saudi Arabia, to Water Buffalo in Africa. We were also rewarded with two days of fantastic presentations from students, technicians, and postdoc members of the NZ Branch.

Congratulations to Alana Whitcombe (Glenn Buchan (Buck) Award for best student presentation), Evert Jan Loef (Barbara Heslop Award for best post-doctoral presentation), and Jody Hazlett (John Marbrook Award for best technician presentation). Catherine Tsai won the challenging 3 Minute Presentation category.

The organising committee and the Branch wish to acknowledge the generous support of our sponsors: Queenstown Research Week: The Maurice Wilkins Centre for Molecular Biodiscovery; The Maurice and Phyllis Paykel Trust; Biolegend; StemCell Technologies; Beckman Coulter Life Sciences; BD Biosciences; Miltenyi Biotec; In Vitro Technologies; Jomar Life Research; and Cytek Biosciences. Because of their funding, the Branch was able to offer 30 travel bursaries to student, technician, and post-doc members.

The NZ-ASI 2018 organizing committee were: Ros Kemp, Rod Dunbar, Anna Brookes, Margaret Currie, Ian Hermans, Sarah Hook, Fiona Radcliff, and Ries Langley.

VSPs in NZ

Joel Ernst Will be visiting Dunedin from 17-19 October. His research is on understanding how M. tuberculosis undermines effective immune responses. For more details or to arrange a meeting with Joel contact Jo Kirman (jo.kirman@otago.ac.nz). If you are an NZ-ASI student, postdoc, or technician member from outside of Otago, you are eligible for travel assistance to meet with Joel or attend his seminar. Please provide me with a short justification for the travel (why you want to go and what it would mean for your research).

NSW BRANCH REPORT HELEN MCGUIRE, NSW BRANCH COUNCILLOR



NSW had a relatively quiet couple of months immunology wise, with most of our efforts going

towards planning the final touches on our NSW/ACT branch retreat, see below. We also committed extra funding to support our student and ECR members for attendance of the ASI 2018 annual conference in Perth. We're looking forward to a great turn out of our NSW colleagues at our outstanding conference this year!

By the time this newsletter will be going to press, we will have enjoyed our NSW/ACT branch meeting hosted at Sebel Harbourside, Kiama on the 13th and 14th September. Registration rates were wonderful, perfectly poised for a dynamic meeting of networking and ideas sharing! Invited speakers: internationally Prof Uri Hershberg (Drexel University, Philidephila, PA, USA), nationally Prof Mariapia Degli-Esposti (Lions Eye Institute, The University of Western Australia), and locally Prof Emad El Omar (UNSW) with Prof Barbara Fazekas de St Groth (The University of Sydney) and Dr Pablo Silveira (ANZAC Institute) speaking in a special session dedicated to Derek Hart who was a keen supporter of our branch meetings. Special thanks to our sponsors, my fellow councillor Ian Cockburn and our organising committee (below) with registration&website support from Tyani Chan and Natalia Zych. Look out for the full branch retreat wrap up including prize recipients, in the next newsletter edition!

ASI ACT/NSW Branch Meeting

Organising Committee Helen McGuire Ian Cockburn Naomi Truong **Kirstie Bertram** Ron Sluyter David Tscharke Alicia Wilson Anne Bruestle Scott Byrne Mainthan Palendira Pablo Silveira Fabio Luciani Regarding the ASI Visiting Speakers Program, in addition to Uri Hershberg joining our branch meeting in September, we'll host Joel Ernst in October, with venue to be decided, with 2019 bringing visits from Donna Farber to be hosted by Garvan in August.

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.



Immunology Retreat Australasian Society for Immunology 10th Annual NSW ACT Joint Branch Meeting

The Sebel Harbourside Kiama 13th and 14th September 2018

Australasian Societ

POSTGRAD AND ECR LUNCH WITH PROF ALAN SHER

QLD BRANCH REPORT SUMAIRA HASNAIN, QLD BRANCH COUNCILLOR



ASI-QLD has had a very exciting start to the year! With a lot of different events taking place - you can follow

us on twitter @sumaira_hasnain. If you are interested in getting involved in the activities supported by ASI-QLD please email Sumaira.hasnain@mater.ug.edu.au

Winter Course for Advanced Immunology

Hosted by: The University of Queensland Diamantina Institute (UQDI)

The Winter course which took place in July 2018 was a big success again this year. With three students winning prizes: Congratulations to T. Oliveira (Griffith university) and S. Holland (UQ) for winning a year's ASI membership & D. Armstrong (UQ) for winning registration to the Brisbane Immunology Group Meeting! Awards were given out by Prof. Ray Steptoe (UQDI).

Brisbane Immunology Group Meeting: Report by ASI-QLD treasurer: Dr Ran Wang

Organising Committee: Rajiv Khanna, Sumaira Hasnain, Matt Sweet, Ray Steptoe. Events management by: QIMRB events, Nancy Cloake ASI-QLD hosted the Brisbane Immunology Group Meeting to be held at Gold Coast SeaWorld Resort on the 6-7th of September! We had some big names attending the retreat including our interstate invited speakers:

Jonathon Sprent Orator: Professor Gabrielle Belz, Walter and Eliza Hall Institute of Medical Research

Plenary Speakers:

- Dr Laura Mackay, Peter Doherty Institute for Infection and Immunity
- Associate Professor Shane Grey, Garvan Institute of Medical Research
- Associate Professor Seth Masters, Walter and Eliza Hall Institute of Medical Research



TALK BY ALEX LOUKAS (JCU)



PRIZE FOR BEST ORAL PRESENTATION GOES TO CLAUDIA STOCKS



PRIZEWINNERS FOR WINTER IMMUNOLOGY COURSE



PRIZE FOR BEST POSTER GOES TO JEN SIMPSON



FAMOUS SESSION OF BEACH CRICKET LED BY RAY STEPTOE!

Local invited speaker Alex Loukas (JCU) gave us an interesting talk on worms. It's amazing to know that anti-inflammatory proteins produced by these parasites can treat inflammatory bowel disease and other autoimmune disorders. We were also privileged to hear from Ashraful Haque (QIMR) on single cell RNA-Seq approach to decipher T helper cell fate diversification, Abishek Iyer (IMB, UQ) on cell metabolism reprograming dictates their function in the Hot Topics session. Danielle Stanisic (Griffith Uni) talked about the recent advances in malaria vaccine. Six postgraduate students across Queensland were selected to give oral presentations. They all did a great job and made judging a difficult task!

Congratulations to Claudia Stocks (IMB-UQ) who was awarded the prize for the best postgraduate student presentation, Jennifer Simpson and Susanna Ng (QIMR Berghofer) shared the best poster presentation. Each of them received \$200 price sponsored by ASI-QLD.

A new initiative at the BIG meeting saw 10 early career researchers showcasing their research in 5 mins. This session is information packed and well received by the audience. All the delegates enjoyed the SeaWorld Resort at the Gold Coast and the famous session of beach cricket led by Ray Steptoe!

The committee would like to thank events at QIMRB for all their effort and in particular Nancy Cloake for organising everything and making the event such a success.

We would also like to thank our sponsors below. ■



goGermline by Ozgene Efficient generation of KO & KI mice



Ozgene actively reducing mouse numbers

- generate: 100% ES cell derived mice
- eliminate: all non-ES cell derived mice
- reduce: time to generate knockout and knock-in mice
- increase: germline efficiency, even with challenging ES cells
- reduce: animal numbers

Contact us at:

Ozgene Pty Ltd ozgene@ozgene.com www.ozgene.com/goGermline



SA/NT BRANCH REPORT IAIN COMERFORD, SA/NT COUNCILLOR

Adelaide Immunology Retreat

The 14th Adelaide Immunology Retreat was

held on August 10-11th 2018 at McCracken Country Club in Victor Harbor. Fifty-eight delegates from the branch attended the retreat over the two days, which was a great turnout. We were privileged to have two terrific plenary talks from A/Prof Scott Mueller from the Doherty Institute as our interstate speaker and from Dr Gabriela Minigo from the Menzies School of Health Research in Darwin as our local speaker. The local organising committee would like to thank both of our invited speakers for their time and participation in making the retreat a success. Over the two days we had 24 presentations from student and ECR delegates as well as various social activities, including whale and penguin spotting (despite the heavy rain!), a wine tasting and dinner.

Over the two days we had 24 presentations from student and ECR delegates as well as various social activities, including whale and penguin spotting (despite the heavy rain!), a wine tasting and dinner.

We awarded prizes for the best talks from PhD students and Masters students. Our prize winners were: Satish Paramasivan (best in PhD category), Kerrie Foyle (runner up in PhD category), Ella Green (3rd prize PhD category), and Caitlin Abbott (best Masters student presentation). I would like to thank all of the delegates who presented their work and for the outstanding level of their presentations.

I would also like to thank the hard-working members of the organising committee for helping put together this event. Organising Committee: Damon Tumes, Annabelle Small, Nikki Landsdown, Jasmine Wilson, Joe Wrin, Caitlin Abbott, Maleika Osman, Danushka Wijesundara, Timona Tyliss, Todd Norton, Kerrie Foyle, Kevin Fenix and Cameron Bastow.

We plan to run a similar retreat in 2019 and will be forming a local organising committee for this early next year. If any local members would like to contribute to this, please get in touch.

I can be contacted by email at iain.comerford@adelaide.edu.au



VIC/TAS BRANCH REPORT

SCOTT MUELLER, VIC & TAS BRANCH COUNCILLOR



As I write this we have just wrapped up a very successful 2018 IgV Annual meeting (August 23-24) at the

Mansion Werribee. We had 124 attendees this year. The venue, next to the Werribee zoo, was very good and the presentations by invited speakers, students and post-docs were excellent. Two international speakers, Prof. Arne Akbar (University College London) and Dr Laiguan Ng (A*STAR) were joined by invited local and national speakers Liz Hartland, Kanta Subbarao, Andrew Currie, Nicola Harris, Stephanie Gras and Si Ming Man.

Amongst the many high-quality presentations, prizes were awarded for the best post-doc presentation (Evelyn Tsantikos, Monash University), best student presentation (Xavier Sng, Monash University), best 3-minute thesis presentation (Taylah Bennett, Monash University) – each of whom received free registration for the upcoming ASI annual meeting in Perth. In addition, Annabelle Blum (The University



PRIZE WINNERS AT THE IGV ANNUAL MEETING 2018 (LEFT TO RIGHT): ANNABELLE BLUM, TAYLAH BENNETT, XAVIER SNG, EVELYN TSANTIKOS, WILLIAM HORMAN.

of Melbourne) won the best poster award and William Horman (Federation University) took out the prize for best question. Well done to the prize winners and to all the students and post-docs for such high-quality presentations.

In addition to speaking at the IgV meeting, ASI visiting speaker Prof. Arne Akbar gave a seminar at Monash University on August 27th (hosted by Kylie Quinn, Monash). On September 11th ASI VSP Prof. Uri Hershberg (Drexel University) will give a seminar at WEHI. Over the next months we are also looking forward to many more



THE WERRIBEE MANSION BY NIGHT AT THE IGV ANNUAL MEETING 2018.

exciting VSP's, including Prof Joel Ernst (New York University), Prof. Donna Farber (Columbia University), Prof. Bob Seder (NIH) and Prof. Paul Kubes (University of Calgary).

The IgV Masterclass will take place this year at the Peter Doherty Institute on Friday 26th of October and will focus on Systems and Quantitative Immunology. Topics will include transcriptomics, genomics, proteomics, single cell analysis (including CyTOF, scRNAseq) and image quantitation. Speakers include Helen McGuire (Centenary), Matt Dixon (Unimelb), Nathan Croft (Monash), Steve Turner (Monash), Joseph Rosenbluh (Hudson), Kaylene Simpson (VCCC) and Daniela Zalcenstein (WEHI). We are looking forward to an exciting day of cutting-edge technology.

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

PUBLICATIONS OF INTEREST

OUR SUSTAINING MEMBERS



Join our FREE Medical Science Liaison webinar in October and learn "How to become an MSL without industry experience" and talk about the latest immunological pipeline drugs with top clinicians for a \$120K+ salary.

abcam

Anti-Smad3 (phospho S423 + S425) antibody [EP823Y] (ab52903)

https://www.abcam.com/smad3-phospho-s423-s425-antibody-ep823y-ab52903.html

Apitz H & Salecker I (2018). Spatio-temporal relays control layer identity of direction-selective neuron subtypes in Drosophila. Nat Commun. doi: 10.1038/s41467-018-04592-z.

Anti-Caspr antibody [EPR7828] (ab133634)

https://www.abcam.com/caspr-antibody-epr7828-ab133634.html

Zhao WD et al. (2018). Caspr1 is a host receptor for meningitis-causing Escherichia coli. Nat Commun. doi: 10.1038/ s41467-018-04637-3.

Anti-JAK2 (phospho Y1007 + Y1008) antibody [E132] (Alexa Fluor 647) (ab200340)

https://www.abcam.com/jak2-phospho-y1007--y1008-antibody-e132-alexa-fluor-647-ab200340.html

Qadri MM et al. (2018). cAMP Attenuates TGF- β 's Profibrotic Responses in Osteoarthritic Synoviocytes: Involvement of Hyaluronan and PRG4. Am J Physiol Cell Physiol. doi: 10.1152/ajpcell.00041.



Targeted transgenic mice; ROSA26 KI (<u>https://www.ozgene.com/services/transgenic-mice</u>) Sinha et al. (2018). Cep55 overexpression causes male-specific sterility in mice by suppressing Foxo1 nuclear retention through sustained activation of PI3K/Akt signaling. FASEB Journal. doi: 10.1096/fj.201701096RR.

Knockout mice (<u>https://www.ozgene.com/services/knockout-mice</u>) Schafler et al. (2018). UXT is required for spermatogenesis in mice. PLoS One. doi: 10.1371/journal.pone.0195747.

Knock-in mice (<u>https://www.ozgene.com/services/knock-in-mice</u>) Mir et al. (2018). The Parkinson's disease VPS35[D620N] mutation enhances LRRK2-mediated Rab protein phosphorylation in mouse and human. Biochem J. doi: 10.1042/BCJ20180248



EasySep[™] Human CD8+ T Cell Isolation Kit

EasySep[™] Human CD4+ T Cell Isolation Kit

EasySep™ Human PE Positive Selection Kit

Alexander I Salter et al., 2018, Phosphoproteomic analysis of chimeric antigen receptor signaling reveals kinetic and quantitative differences that affect cell function. Science Signaling,10.1126/scisignal.aat6753

EasySep[™] Human B Cell Isolation Kit

EasySep[™] Mouse B Cell Isolation Kit

Xiaojie Yu et al., 2018, Complex Interplay between Epitope Specificity and Isotype Dictates the Biological Activity of Anti-human CD40 Antibodies. Cancer Cell, 10.1016/j.ccell.2018.02.009

EasySep[™] Human NK Cell Enrichment Kit

Sandhya Bangaru et al., 2018, A multifunctional human monoclonal neutralizing antibody that targets a unique conserved epitope on influenza HA, Nature Communications, 10.1038/s41467-018-04704-9

EasySep[™] Human CD4+ T Cell Isolation Kit

EasySep[™] Human CD8+ T Cell Enrichment Kit

EasySep™ Human Monocyte Enrichment Kit without CD16 Depletion

Yi Le et al., 2018, The homeobox protein VentX reverts immune suppression in the tumor microenvironment, Nature Communications, 10.1038/s41467-018-04567-0



PTMScan® Proteomic Services and Kits

PTMScan® Technology – Immunoaffinity enrichment for mass spectrometry-based proteomics <u>https://www.</u> cellsignal.com/contents/_/simplifying-proteomics/proteomics

Yang Q. et al, 2018, Zinc finger protein 598 inhibits cell survival by promoting UV-induced apoptosis, Oncotarget, 9(5):5906-5918.

Goel R.K. et al, 2018, Phosphoproteomics Analysis Identifies Novel Candidate Substrates of the Nonreceptor Tyrosine Kinase, rc-elated Kinase Lacking C-terminal Regulatory Tyrosine and N-terminal yristoylation ites (SRMS),Mol Cell Proteomics, 17(5):925-947

Jeitany M. et al, 2018, Inhibition of DDR1-BCR signalling by nilotinib as a new therapeutic strategy for metastatic colorectal cancer, EMBO Mol Med, 10(4)



www.jlresearch.com.au

Plasmocin (https://www.invivogen.com/plasmocin)

Sigar et al. (2018) Elimination of Mycoplasma contamination in Chlamydia stocks as a result of in vivo passage or plaque isolation. BMC Research Notes. DOI: 10.1186/s13104-018-3455-x

Poly(I:C) HMW (https://www.invivogen.com/polyic-hmw)

Sarkar et al. (2018) The respiratory syncytial virus fusion protein formulated with a polymer-based adjuvant induces multiple signaling pathways in macrophages. Vaccine. DOI: 10.1016/j.vaccine.2018.03.016

RAW-Lucia ISG Cells (https://www.invivogen.com/raw-lucia-isg)

Cheng et al. (2018) The cGas-Sting Signaling Pathway Is Required for the Innate Immune Response Against Ectromelia Virus. Frontiers in Immunology. DOI: 10.3389/fimmu.2018.01297



Brilliant Violet 421™ anti-T-bet Antibody

Lorentsen KJ et al., 2018, Bcl11b is essential for licensing Th2 differentiation during helminth infection and allergic asthma, Nat Commun, p1679. (http://www.nature.com/articles/s41467-018-04111-0) Brilliant Violet 605™ anti-human CD279 (PD-1) Antibody

Arce Vargas F et al., 2018, Fc Effector Function Contributes to the Activity of Human Anti-CTLA-4 Antibodies, Cancer Cell, p649. (http://linkinghub.elsevier.com/retrieve/pii/S1535610818300631)

Zombie NIR[™] Fixable Viability Kit

Wang K et al., 2018, IL-35-producing B cells in gastric cancer patients, Medicine (Baltimore), p. e0710. (<u>http://</u>Insights.ovid.com/crossref?an=00005792-201805110-00049)

Our other sustaining members:















MONASH GENOME MODIFICATION PLATFORM

ABOUT THE AUSTRALASIAN SOCIETY FOR IMMUNOLOGY

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

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

ASI Member Benefits include:

- International Travel Awards
- Bursaries to attend ASI's Annual Meeting
- New Investigator and Student
 Awards at ASI Annual Meeting
- <u>ASI Women's Initiative to</u> support female scientists
- <u>ASI Member's benefits</u> publishing in ASI Journals ICB and CTI
- <u>Special offers from ASI's</u> <u>Sustaining Members</u>
- Full access to the journals
 Immunology and Cell Biology,
 Clinical and Translational
 Immunology

ASI COUNCIL

Executive

President - Susanne Heinzel <u>president@immunology.org.au</u> Vice President - John Fraser <u>j.fraser@auckland.ac.nz</u> Honorary Secretary - Elissa Deenick <u>secretary@immunology.org.au</u> Treasurer - Kim Jacobson <u>treasurer@immunology.org.au</u> Deputy Treasurer - Asolina Braun <u>abraun@unimelb.edu.au</u>

Voting Council

NSW Councillor - Helen McGuire <u>helen.mcguire@sydney.edu.au</u> SA/NT Councillor - Iain Comerford <u>iain.comerford@adelaide.edu.au</u> QLD Councillor - Sumaira Hasnain <u>sumaira.hasnain@mater.uq.edu.au</u> VIC/TAS Councillor - Scott Mueller <u>smue@unimelb.edu.au</u> ACT Councillor - Ian Cockburn <u>ian.cockburn@anu.edu.au</u> NZ Councillor - Ries Langley <u>r.langley@auckland.ac.nz</u> WA Councillor - Connie Jackaman <u>connie.jackaman@curtin.edu.au</u>

Non-voting council

General Manager - Tyani Chan <u>generalmanager@immunology.org.au</u> Facebook + Twitter Manager - Gabriela Khoury <u>gabriela.khouryl@gmail.com</u> Newsletter Editor - Angelica Lau <u>newsletter@immunology.org.au</u> IUIS Representative - Alejandro Lopez <u>alejandro.lopez@qimrberghofer.edu.au</u> ICB Editor-in-Chief - Anne La Flamme <u>anne.laflamme@vuw.ac.nz</u> ICT Editor-in-Chief - Rajiv Khanna <u>rajiv.khanna@qimr.edu.au</u> FIMSA Representative - Laura Mackay <u>lkmackay@unimelb.edu.au</u> Visiting Speaker Program - Stuart Mannering <u>smannering@svi.edu.au</u> Women's Initiative Co-ordinator - Vanessa Bryant <u>bryant.v@wehi.edu.au</u> Meeting Co-ordinator - Meredith O'Keeffe <u>meredith.okeeffe@monash.edu</u> Dol coordinator - Gabriela Khoury <u>gabriela.khouryl@gmail.com</u> Honorary Archivist - Judith Greer j.greer@uq.edu.au 2018 LOC Meeting Co-Chair - Connie Jackaman <u>connie.jackaman@curtin.edu.au</u>

The ASI membership directory, listing all financial members of the Society is available at http://www.immunology.org.au/asi-membership-directory/

To join the ASI or renew your subscription, go to_ http://www.immunology.org.au/membership/