ASINEWS

JUNE 2022

EDI UPDATE
First Face to Face IgV Meeting in Two Long Years.
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MARGARET BAIRD AWARD
Meet the Joint 2021 Recipient
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CHEERS-BUCHAN AWARD
Meet the 2022 Recipient
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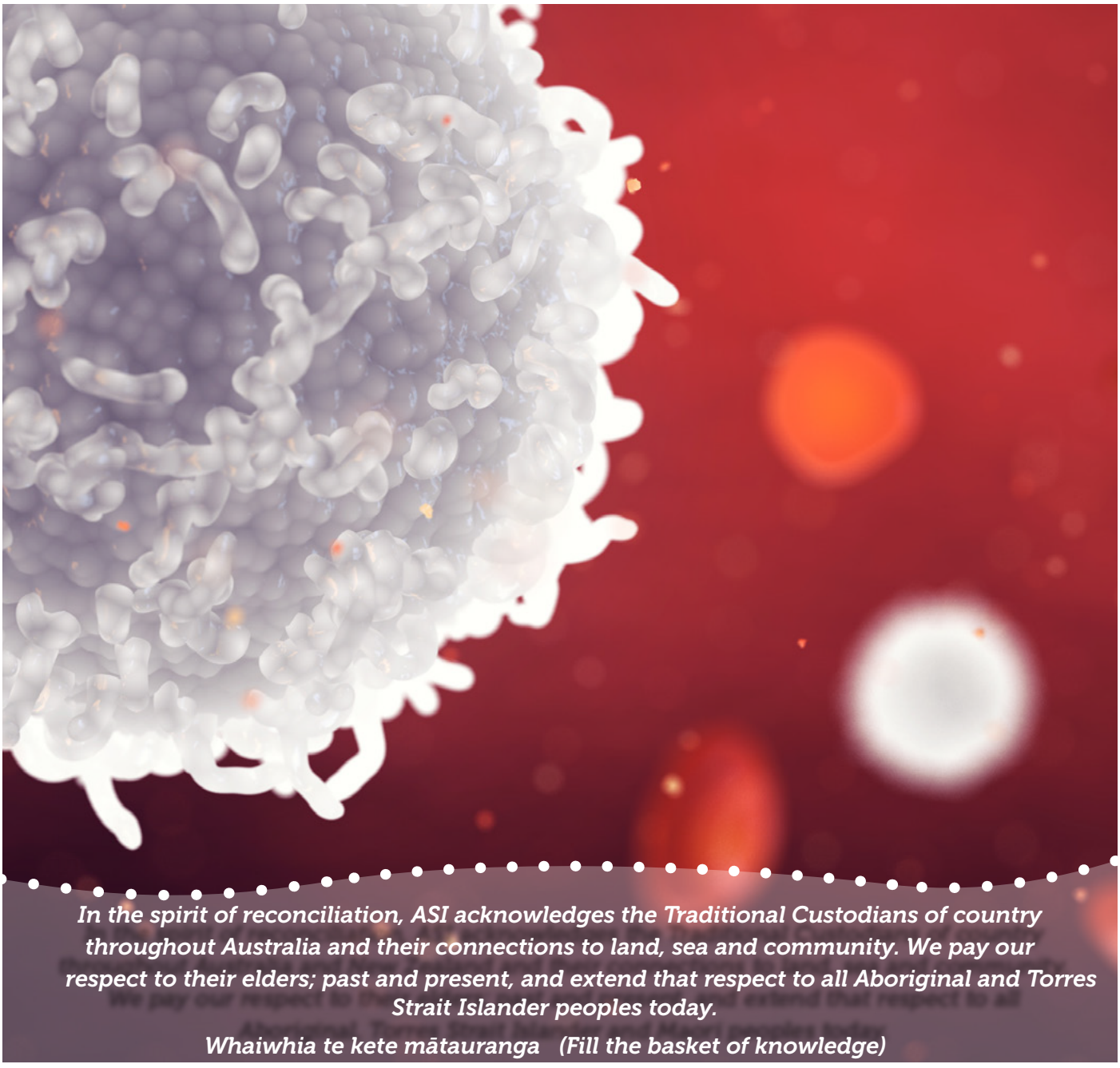

In the spirit of reconciliation, ASI acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their elders; past and present, and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

Whaiwhia te kete mātauranga (Fill the basket of knowledge)

Australian and New Zealand Society for Immunology Inc.
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Australian and New Zealand SOCIETY FOR IMMUNOLOGY INC.

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VIC Branch Report

Scott Mueller,
VIC and TAS Councillor

Warm greetings to all ASI members. We have managed to jump into 2022 with a bang! Victorian and Tasmanian ASI members have enjoyed the increasing freedoms hold several well-attended events, with more to come.

IgV Autumn Seminar, March 25th 2022

After many months of cancellations with Victoria's COVID-19 Lockdown 6.0 and Co-Convenors A/Professor Daniel Pellicci's (MCRI) and Dr Oanh Nguyen's (University of Melbourne) efforts of making a winter, then spring and then a summer IgV seminar flyer, it was an absolute pleasure to finally host the IgV Autumn Seminar in March with Professors Terry Nolan and Dale Godfrey providing an update on the Doherty Institute's first-ever COVID-19 vaccine Phase I clinical trial. Terry gave a lovely overview of their industrious journey towards generating not one, but two COVID-19 vaccine candidates. Dale dazzled us with key animal data that formed the groundwork and breakthrough for getting these vaccine candidates into human clinical trials. The seminar was held online and in-person at The Leveson where it was so exciting to see Research Graduates and Academic Staff coming together from different Institutes to discuss science over a glass of wine or a pint of beer, or both! We will be organising another IgV Winter Seminar in July or August so stay tuned! - Dan and Oanh

IgV Annual Scientific Meeting, April 7-8th 2022

The IgV Annual Scientific Meeting was recently held at the Yarra Valley Lodge, not far from Melbourne. Originally scheduled for August last year, the meeting was rescheduled twice due to COVID outbreaks. The decision to postpone was made so that the meeting could be held in-person rather than in virtual format again. This turned out to be a fantastic decision, with around 180 people attending in-person and another 20 or so via Zoom. That's the biggest IgV meeting to date.

We had a jam-packed meeting showcasing some of the most exciting immunology research from Victoria, Tasmania and other parts of Australia with our two interstate invited speakers David Lynn and Kirsty Short. Over the two days we covered a wide range of immunology themes, including immunotherapies, antigen presentation, innate immunity, T cell biology and, of course, COVID. Many thanks to out other invited speakers who featured in the program: Alex Corbett, Anna Coussens, Phil Darcy, Phil Hodgkin, Kim Jacobson, Kate Lawlor, Ben Marsland and Ivan Poon.

As always, the IgV meeting provided lots of opportunities for students and postdocs to

present their work. For many students, in particular, it was the first experience of attending a conference in-person after managing through two years of COVID. The quality of talks and poster presentations were remarkable and the IgV committee had great difficulty when it came to awarding the presentation prizes. So, the committee decided to award multiple prizes for some categories! Each winner was awarded a bursary to attend the 2022 ASI Annual Scientific Meeting to be held in Melbourne later this year. In addition, the best oral presentation prize winners were awarded $200 toward research or career development activities.

Congratulations to the following award winners:

Best oral presentation by a student – Taylah Bennet, Amanda Chen and Calvin Xu

Best oral presentation by an early postdoc – Louise Rowntree

Best three-minute thesis – Bridgette Duckworth and Angela Wang

Best poster presentation by a student – Rebecca Abbott, Mariam Bafit, Melissa Butler, Gemma Hartley and Andrea Nguyen

Best poster presentation by an early postdoc – Ee Shan Pang

This year's IgV meeting also included a thought-provoking EDI session on gender equity in academia held during the conference dinner, which featured a keynote presentation by Marcia Devlin. Marcia, who is an internationally recognised academic and expert in higher education and equity, presented data and recommendations from her recent book "Beating the Odds: A practical guide to navigating sexism in Australian universities". Marcia's presentation was extremely well received and stimulated vibrant discussion. The IgV meeting will be featuring more EDI sessions in the future.

A huge thanks to all the IgV committee members who helped with putting together this meeting and to the many others who helped with assessing talks and poster presentations. Finally, thanks to all the meeting sponsors: Abcam, Australian Biosearch, BioLegend, Genesearch, GenScript, Merck, Milteny Biotec, New England BioLabs, Perkin Elmer, StemCell and Transnetyx. Without their continued support, it would not have been possible hold this Annual Scientific Meeting.

With the 2022 ASI Annual Scientific Meeting to be held in Melbourne, IgV will not be organising another Annual Scientific Meeting until 2023. We look forward to seeing everyone at ASI2022!

IgV Student Roadshow 2022. May 30th – June 3rd

Every ASI PhD or Masters student based in Victoria or Tasmania who registers will be given the opportunity to present a short talk. The top presentations will be awarded early bird registration to attend the 2022 Annual Scientific Meeting of ASI in Melbourne (29th Nov – 3rd Dec) valued at $395.

IgV Winter Seminar – speaker and dates TBC

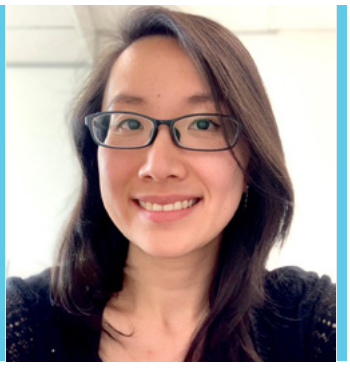
IgV Student mentoring program.

The COVID-19 pandemic has impacted opportunities for students to network and establish or maintain mentoring relationships. To address this, IgV is launching a local mentoring program with the aim of supporting PhD students at the start of their careers. Mentors and mentees will be matched based on location, interests and other factors which will be considered after completion of a questionnaire at the time of expressing interest in the program. Mentors and mentees will be invited to participate in an online webinar at the start of the program to provide training for both mentor and mentee to get the most out of the relationship. There will be additional webinar to provide support during the course of the program. The program will run for 1 year, and we will encourage mentors and mentees to meet once per month (online or in person). Taylah Bennett, Alexandra Dvorscek and Jennifer Habel.

Scott Mueller

NSW Branch Report

Angelica Lau | NSW Councillor



Hi everyone!

Can you believe it is already half way through the year? There is much to be thankful for as our new found freedom and easing of restrictions in recent months has really allowed us to enjoy the long anticipated face-to-face meetings and events. Some exciting news, of course, is the Day of Immunology celebrations that took place throughout the weeks of 29th April, and the upcoming ASI Branch meeting to be held on 18-19th August.

Firstly I would like to thank the all volunteers who helped organise the various DOI events across NSW this year. This year we have several participating institutes, including volunteers from the Charles Perkins Centre University of Sydney, Westmead Institute of Medical Research, Garvan Institute, University of New South Wales and University of New England. Amidst the uncertainties of the pandemic, I am pleased to share that ASI NSW was able to joint the rest of the world in showcasing and celebrating immunology during a number of internal and public events held by a number of institutes. Most of all, thank you to all the students and researcher volunteers for participating and help celebrating this wonderful time of year where we highlight and raise awareness for immunology and medical research.

Keep an eye out for the next newsletter featuring special issue about DOI celebrations!

ASI NSW-ACT Branch Meeting

18-19th August 2022, Peppers Craigieburn, Bowral

Your long anticipated NSW-ACT joint branch meeting is finally happening this year on the 18-19th August 2022 at Peppers Craigieburn, Bowral!!!

This meeting has always been one of the most anticipated, easy-going and collegial event. It is a wonderful and supportive space that encourages students and early career researchers to present and engage with leaders and peers across the NSW ASI network.

This year we have a fantastic line-up of invited speakers, including Professor Jose Villadangos (Uni of Melbourne), Dr Iain Comerford (Uni of Adelaide), Dr Kylie James (Garvan) and A/Professor Fabienne Brilot-Turville (Uni Sydney) who are going to blow us away with their latest research.

Registration and abstract submission is NOW OPEN. Registration ends in July.

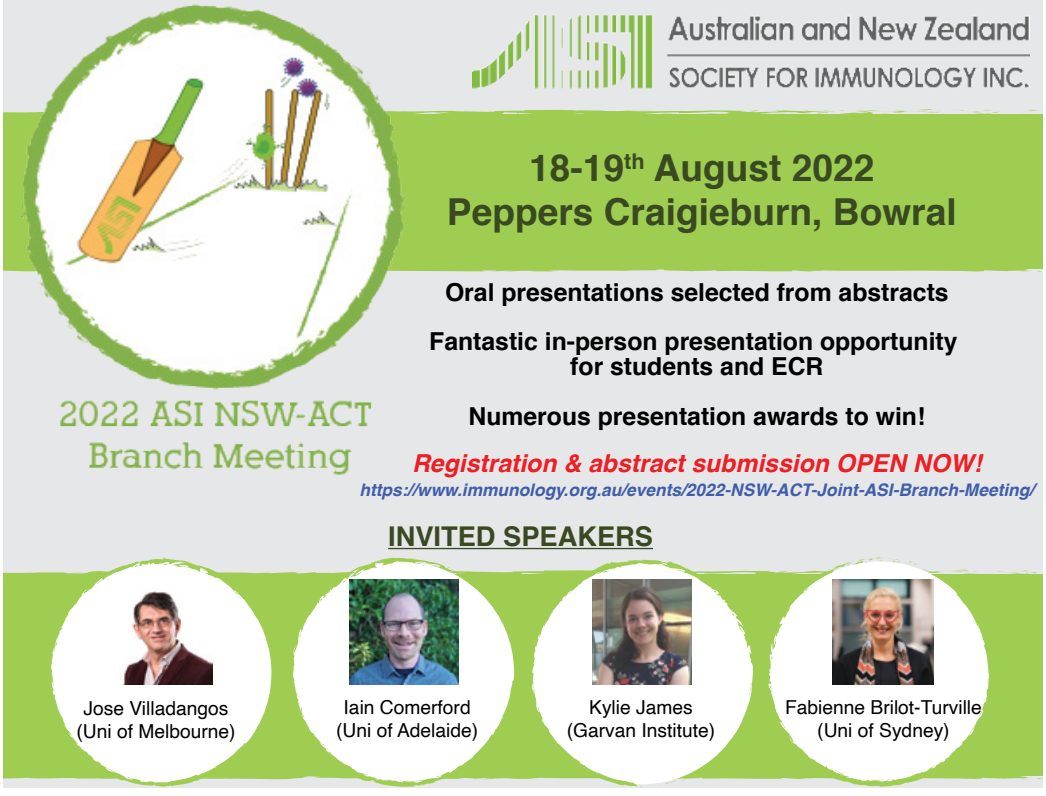
Register now! https://www.immunology.org.au/events/2022-NSW-ACT-Joint-ASI-Branch-Meeting/

Make sure your ASI membership is up-to-date in order to receive all the benefits from ASI, including eligibility for travel awards and discounted registration costs!

If you haven't joined or renewed your membership, visit us here: https://www.immunology.org.au/membership/benefits-of-membership/

Invite your colleagues, peers and students to come and make the most out of this guaranteed fantastic meeting! Feel free to print out the flyer and help us promote it at your institute! We look forward to seeing you there.

Angelica Lau



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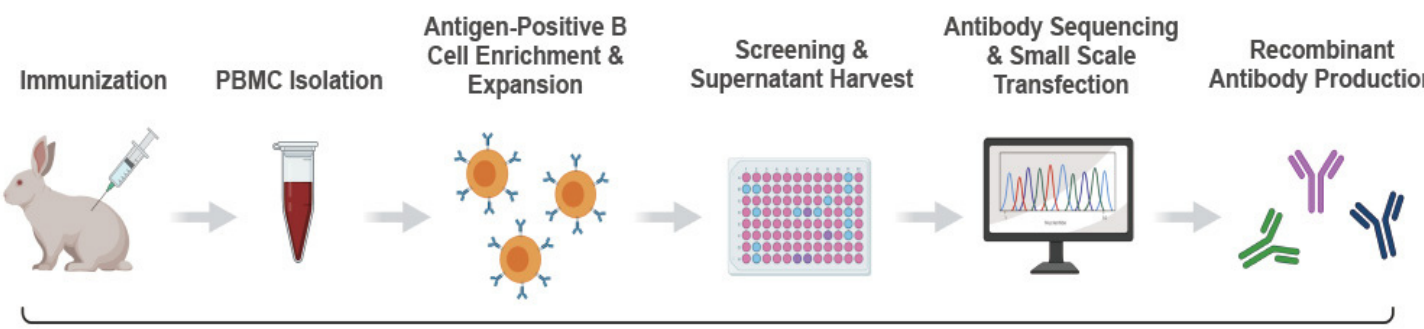

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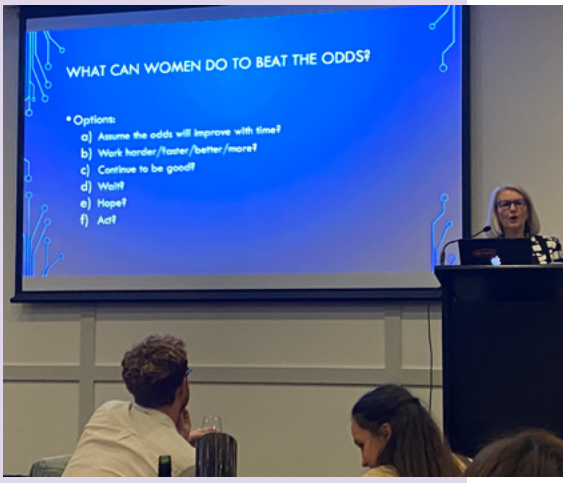
EQUITY DIVERSITY & INCLUSION COMMITTEE UPDATE

Diana Hansen,
EDI Coordinator

After two long years of mainly online networking, on 7th-8th April I had the pleasure of attending a face-to-face IgV meeting, held at the Yarra Valley Lodge in Chirnside Park.

In addition of hosting vibrant immunology research from our community, the 2022 IgV's Conference dinner featured a keynote presentation by Prof Marcia Devlin, an internationally recognised expert in higher education and equity, who presented data and recommendations from her recent book ***Beating the Odds: A practical guide to navigating sexism in Australian universities*** (great read that I recommend). The highly interactive session started with a Menti live poll that captured critical information on how the audience was feeling in relation to gender equality in the Australian academic sector. Some of the key answers from the live survey revealed that an overwhelming 80% of the audience felt that achieving gender equality at all levels of leadership was important, 70% felt that women did not have equal opportunity to make it to leadership as men, and 75% felt that gender equity in academia was not improving fast enough, with a more pessimistic 20% having the view that was not changing at all, or even going backwards. Prof Marcia Devlin then entertained the audience sharing a wealth of research-based knowledge on why "the odds are against women in academia" and offering practical advice on how to implement change at a personal and institutional level, including developing strategies, forming support networks and taking decisive action towards challenging management on equality policy.



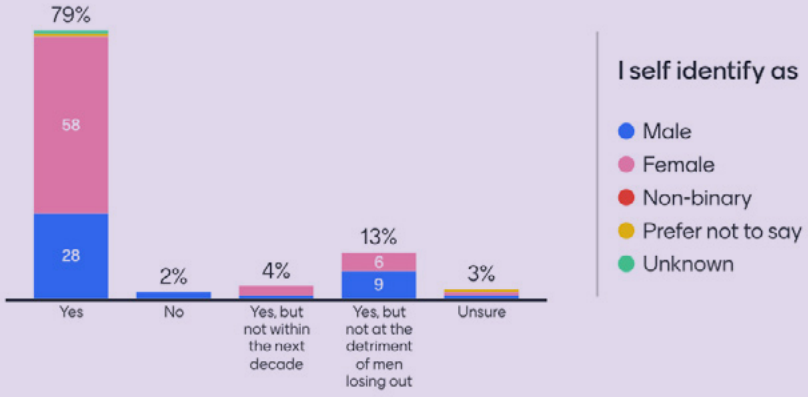
Here from ASI, we will continue doing our bit to change these odds. After several months of preparation, we are very close to launch our first mentoring scheme in ASI. We are confident that this new initiative will be very useful in supporting early career researchers (ECRs) in our community, particularly after two years of disruptions due to the COVID-19 pandemic, which had a detrimental impact not only in research productivity, but also deterring access to opportunities for networking and mentoring.

Our mentorship program will use the Mentorloop online platform. In Mentorloop, mentors and mentees are connected online and prepared for the mentoring relationship with materials accessed through the online portal. Mentors and mentees receive regular email prompts to ensure that the mentee's goals are clear, mentee/mentor expectations are clear, and the relationship is progressing.

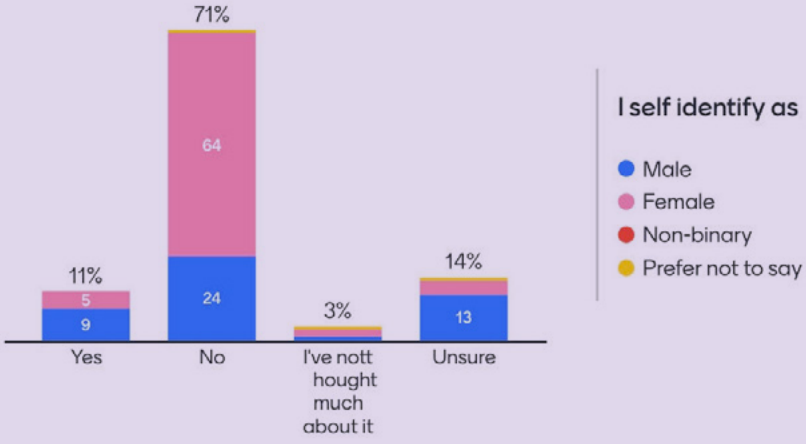
There is demonstrated evidence that good role models and mentorship are instrumental tools for career advancement and to achieve goals in equality and diversity in the workforce. ASI ECRs have been requesting access to this kind of scheme. If you feel that it is time to start giving back to your community and help making and difference towards, as Marcia Devlin would say "beating the odds", please get in touch by emailing mentoring@immunology.org.au, to sign up as a mentor and/or to request more information about this program.

Diana Hansen

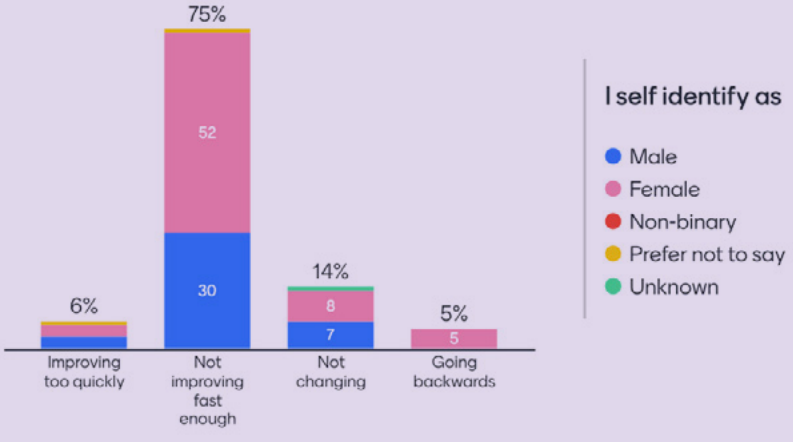
Is achieving gender equity at all level of leadership in the next decade important to you?



Do you feel women have equal opportunity to make it to leadership posisions as men?



Do you feel that gender equity in Australian academia is



Images:
Previous Page: IgV Meeting
Current Page: Menti Poll Results

The IUIS Corner

Joanne Reed | IUIS Coordinator

Welcome to the June edition of IUIS Corner.

IUIS celebrated International Day of Immunology 2022 with the social media campaign #ThankYouImmunology. The campaign featured IUIS society leaders discussing recent activities and initiatives, reliable vaccine resources and Q&A sessions. If you missed it, check out the Day of Immunology YouTube channel https://www.youtube.com/channel/UCSrOHE2JvIPnX-sJC9bSb0g

IUIS also teamed up with the European Federation of Immunological Societies to bring us the 2022 International Day of Immunology Webinar: "Science, State and Challenges of COVID-10 vaccines". The webinar can be viewed here: https://www.youtube.com/watch?v=aHvoo2Thbd0

Speaking of Webinars... The IUIS immunology Without Borders Webinar Series has continued into 2022 with presentations from Shane Crotty, Akiko Iwasaki and other expert speakers online to watch on-demand https://iuis.org/webinars-on-demand/

Finally, the IUIS backs the International Science Council's call for action to support at-risk, displaced and refugee scientists with the Science in Exile Declaration. If you represent an institute that supports at-risk, displaced and refugee scientists or would like more information on this important initiative, please visit https://council.science/actionplan/science-in-exile/

Joanne Reed

DID YOU KNOW?

The IUIS website advertises career opportunities. Not only is this an excellent resource to find your next career move but also a great place to access international immunology talent and recruit your next staff member. To see or make a listing, go to: https://iuis.org/career-opportunities/

ASI Margaret Baird Women in Immunology Award

2021 Joint Recipient

JOANNA GROOM
Immunology Division, WEHI

It was an honour to be named as co-recipient of the 2021 Margaret Baird Award. And fantastic to share the award with Professor Antje Blumenthal, who I have long admired. On 2022 International Women's day (IWD), March 8th both Antje and I had the pleasure of being hosted by A/Prof Diana Hanson, for the start of this year's Margaret Baird lectureship. Due to COVID, this was an online seminar, allowing engagement from multiple ASI regions – both across Australia and New Zealand. Antje presented a fantastic lab overview her work tackling the global challenge of severe bacterial infections. I followed with a presentation of some of my labs most recent discoveries, investigating how we can leverage distinct T cell fates therapeutically. I look forward to engaging with ASI state representatives to continue the Margaret Baird guest lectureship throughout the year.

As wonderful as this event was, it also emphasised how far ASI must go to achieve our gender equity goals and to break the perception this is solely 'women's problem'. By my count, of the 75 attendees that tuned in, only 3 were men. This was indeed disappointing. The intention of this award, in honour of one of our society's champions of mentoring and supporting women in immunology, is to provide an advancement opportunity for an outstanding ASI researcher, where their science is front and centre. Are ASI men overwhelmingly disinterested in the scientific discoveries of their women peers? The event was well advertised via our ASI channels that usually attract a diverse audience, with the virtual event an opportunity for members across the countries to tune in. Regardless of whether this was a scientific talk or a gender equity discussion (or both), it is essential that more than 4% of the audience are men. I was left wondering how we move past "gender" as just referring to "female" and move past IWD events triggering women rather than celebrating them? Why is women's research so easy to dismiss? And critically, how do we challenge this conscious and unconscious bias, not just for attending events, but how we review manuscripts and grants.

At the end of the scientific presentations, Diana led an open Q&A on gender equity in research. This featured insightful questions about inclusion and diversity from Diana and attendees. I was asked what advice I would give to my younger self as an early career researcher. I reflected on my experiences of shrinking to fit into expected roles as a young woman researcher, being conscious not to take up too much space and not strongly advocating for my goals during my career. Only on reflection did I realise that I did this very thing in my preparation for this event. Originally, I assumed that sharing this award would enable lectureships for both Antje and myself to discuss our work in separate lectures. Instead, the opportunity (and our time) to discuss our lab's work and discoveries was halved. It is challenging to give two scientific talks and have an engaging discussion about gender and research in a single hour. And as the second scheduled speaker, on the fly, I deleted slides to shrink my talk to keep the event time. While this was absolutely an enjoyable event, it was also a missed opportunity to truly celebrate exciting research and perhaps truly reflect the intention of the award. As a yearly award, I advocate for a single awardee of the Margaret Baird lectureship. We have many outstanding members and while I was honoured to be selected, I would have gladly reapplied this year, so Antje could give an hour lecture – her work and passion deserves that much (as does mine). I sincerely hope that the 2022 Margaret Baird recipient has ample time to share their most exciting discoveries to a room (or screen) that reflects the diversity of ASI membership.

Cheers-Buchan Teaching Award

2022 Recipient

MAURIZIO COSTABILE
University of South Australia

I am humbled to have been awarded the ASI Cheers-Buchan Education Award. Currently, I am an Associate Professor of Biochemistry and Immunology Education in the Clinical and Health Sciences (CHS) academic unit at the University of South Australia (UniSA). I completed a B.Sc. with first-class Honours from Flinders University and then a PhD in Immunology from the University of Adelaide, at the Women's and Children Hospital. I was fortunate to start my academic career at UniSA while completing my PhD, being the youngest academic in the school for many years. Starting as a balanced academic, my research examined the ability of both natural and engineered polyunsaturated fatty acids to modulate the immune response, with a particular focus on in vitro and in vivo T cell activity. Working in a clinical diagnostic laboratory, I also had the opportunity to spend 8 months at the Great Ormond Street Hospital in London learning molecular techniques to diagnose primary immunodeficiency diseases as part of an M.S. McLeod fellowship. On returning to Adelaide, I established a NATA accredited testing service for such diseases, a service that continues to be offered to this day. Over time, my research interest moved toward immune evasion, and I began to study the enzyme, indoleamine 2,3-dioxygenase (IDO), an enzyme known to play key physiological roles, such as preventing fetal rejection by the maternal immune system. However, IDO is also exploited by cancer cells as one mechanism to suppress and evade the immune response. I successfully supervised several Honours and PhD students working in this area. In addition to my research, I have been a research degree coordinator since 2016, mentoring over 60 Masters and PhD students in their research journeys.

During my now 24-year career, I have also been heavily involved in teaching Biochemistry and Immunology. When I first began teaching, I taught how I had been taught. As we are all probably familiar with, this meant lots of notes delivered at record speed. Less than ideal for students and my satisfaction. I began to reflect on my teaching approach, and over time it has now evolved into much more effective practice, with students benefitting as a result. These efforts have been recognised by the University, and at the national and international level with multiple teaching citations and awards. I always strive to enhance my practice and better connect students with the beautiful, yet complex world of the mammalian immune system. I constantly test new approaches in my teaching which have the potential to improve student learning. For example, mind mapping is a way of connecting related but distinct information between lectures, simulations to enhance the learning of fundamental, but sometimes challenging concepts and new practical's to teach flow cytometry by diagnosing the immune status of "immunodeficient" patients. I have also moved from action research into the scholarship of teaching and learning, assessing impact and disseminating my findings at conferences and peer-reviewed publications. Given my passion for education and innovation, in 2019 I decided to move to a teaching focused academic role, and I have not looked back! With my research and educational expertise, I have undertaken senior leadership roles within the University including interim Dean of Research for Education Futures and I have recently been appointed as the interim Dean of Research for UniSA Creative. I am proud to say that my sustained educational impact was acknowledged by the University in 2021 when I was promoted to A/Prof, only the second person to have been promoted internally to this level. I now co-lead the teaching and learning educational research group in CHS, TIRTL (Teaching Innovation & Research Team (for Learning)). This is a fantastic opportunity to mentor and help colleagues to analyse their practice, implement and assess new approaches to teaching and disseminate their findings. Once again, I would like to thank the ASI for this award, and I will use the prize money to attend the next face-to-face ASI annual meeting..

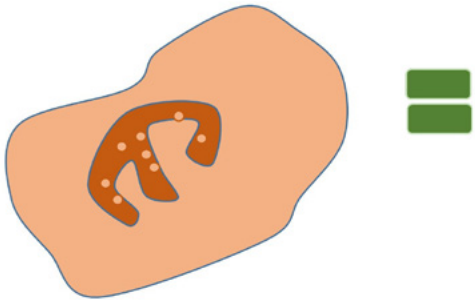
Career Advancement Awards

MEG DONOVAN
University of Queensland

I started my scientific career enrolling in a Bachelor of Biomedical Science at the University of Queensland in 2013. During this time, my interest in scientific research was sparked. I completed three different research projects in three separate laboratories in my own time, on top of completing all requirements for my undergraduate degree to a high standard. One of these undergraduate projects was with Professor Ian Frazer and Dr Le Son Tran, who opened my eyes to the beauty of immunology. In the final year of my undergraduate degree, I took some microbiology courses and became fascinated by the interplay between hosts and pathogens. This interest led to undertaking a summer project and honours with Professor Antje Blumenthal in the field of innate immune recognition of Mycobacterium tuberculosis (Mtb). After completing my Bachelor with class I honours, I embarked on my PhD journey at The University of Queensland Diamantina Institute (UQDI) with Professor Antje Blumenthal and Professor Matt Sweet as my supervisors.

My PhD has been focused on Tuberculosis (TB). TB was only recently replaced by COVID-19 as the leading cause of death globally due to a single pathogen. An effective vaccine and improved treatments are urgently needed to end the TB epidemic, which requires detailed understanding of immune responses that eliminate and protect from Mtb infection. While granulomas are central to the host control of Mtb, we know surprisingly little about the mechanisms that govern Mtb restriction within granulomas. My work has unveiled thus far unrecognised mechanisms of innate immune activation during Mtb infection. Moreover, my most recent work has revealed unprecedented insights into the microenvironment of TB granulomas, an area that, while critical for defining mechanisms of immune control of Mtb infection, is largely unexplored.

The ASI Career Advancement Award (CAA) is supporting me in finalising my PhD thesis and submitting the associated manuscripts. Both these aspects are vital for pursuing my research career and the foundation for securing a post-doctoral position in the coming months to continue my exciting journey towards new discoveries at the host-pathogen-interface.



Neutrophils

A. Baumannii

Chemotaxis
Phagocytosis

LOS
Peptidoglycan
DNA metabolism
Phosphate metabolism

Fig. Host pathogen interaction in *Acinetobacter baumannii*

Carer's Award-

COVID Support

MUHAMMAD IKHTEAR UDDIN

Monash University

I am PhD student in the laboratory of Professor Anton Peleg, Monash University. Our laboratory aimed at unravelling mechanisms of antibiotic resistance in hospital pathogen such as Acinetobacter baumannii, Pseudomonas aeruginosa, and Staphylococcus aureus and how host factors such as neutrophils respond to these pathogens. In addition, we focus on new drug discovery against these pathogens which is critical as declared by World Health Organisation.

Background of my project and the findings:

Acinetobacter baumannii is a gram negative, opportunistic pathogen that has become widespread in clinical settings. The emergence of strains that are multi-, extreme- and pan-drug resistant has created a significant healthcare burden, due to the limitation of treatment options available, leading the WHO to declare the development of new drugs to treat this pathogen a critical priority. The study of key virulence and pathogenesis mechanisms as well as their impact on the immune response may help to identify new targets for novel therapeutics. However, the mechanisms of pathogenesis and virulence of A. baumannii are poorly understood.

Although it is known that neutrophil chemotaxis to the site of infection and subsequent phagocytic activity, plays a primary role in the defence to infections caused by A. baumannii, how bacterial factors modulate the process of neutrophil migration is largely unknown. Currently, very few drivers of neutrophil chemotaxis have been identified in A. baumannii. To identify more bacterial derived neutrophil chemoattractants, a transposon mutant library of a contemporary clinical isolate, AB5075-UW was exploited. Initially, a high throughout neutrophil chemotaxis assay utilising a 96-well plate format to screen multiple mutants simultaneously, was developed. Validation was performed using two LOS mutants (lpxA and lpxC) as negative controls and a potent chemoattractant, fMLP as the positive control to confirm that variations in neutrophil migration were detectable using this assay.

This high throughput chemotaxis assay was used for the screening of 942 A. baumannii transposon mutants. Of these, 24 mutants that induced an increase in chemotaxis and 23 mutants in which chemotaxis was reduced, were identified. Two mutants with disruptions in ddc (ABUW_2564) and nfa (ABUW_3555) that resulted in reduced neutrophil chemotaxis, were investigated further. The gene ddc (ABUW_2564) encodes the protein DDCpase, which is involved in peptidoglycan (PG) maturation and recycling. PG is a potent stimulator

of the host immune system that activates a protective inflammatory response. It was postulated that in the absence of DDCpase there is a decrease in PG, which in turn decreases neutrophil chemotaxis. The gene nfa, (ABUW_3555) encodes for purine and pyrimidine nucleoside phosphorylase (PpnP), an enzyme of the nucleoside salvage pathway. It was hypothesised that the absence of PpnP may alter nucleotide metabolism, which in turn may impact biosynthetic pathways requiring NTPs, such as PG biosynthesis. Consistent with these hypotheses, the disruption of DDCpase and PpnP caused the reduction of neutrophil chemotaxis both ex vivo and in vivo, in a manner that could be restored by supplying the gene in trans.

Lastly, phosphate metabolism, which is regulated by the pho regulon and has been shown to play essential roles in bacterial survival, growth and virulence in other bacterial species, was investigated for the first time in A. baumannii. Transcriptomic analysis revealed that one fifth of the A. baumannii genome is differentially expressed during phosphate starvation when compared to phosphate replete conditions. Given that changing phosphate concentrations impact the pho regulon through the activity of the PhoBR two component regulatory system, this was investigated in further detail. Using a strain deficient in the transcriptional regulator phoB, 85 genes with differential expression during phosphate starvation were identified as part of the putative pho regulon. A potential role of the pho regulon in oxidative stress was demonstrated via a phenotypic assay.

In conclusion, this study demonstrated for the first time that a PG recycling enzyme (DDCpase) and the nucleoside salvage pathway (PpnP) influence neutrophil chemotaxis both ex vivo and in vivo. Furthermore, this is the first study to identify the global transcriptional response of A. baumannii to phosphate starvation.

Support of the project through this award:

During the pandemic it was increasingly became difficult for me to care two kids at home and finish the PhD research and writing. This fund has helped me to send my son to the Monash children care and alleviated a bit of burden. Therefore, were able to spend more time to write the PhD thesis. I am really thankful to ASI for this support in such as difficult stage of my PhD.

Sustaining Member Publications

STEMCELL TECHNOLOGIES

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EasySep™ Human CD4+ T Cell Isolation Kit

EasySep™ Human Memory CD4+ T Cell Enrichment Kit

EasySep™ Human CD4+CD127lowCD49d - Regulatory T Cell Enrichment Kit

Chen et al. (2021). CAR directs T cell adaptation to bile acids in the small intestine. Nature.

doi: https://doi.org/10.1038/s41586-021-03421-6

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Sustaining Member Publications

MERCK

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Lekhraj, R., Lalezari, S., Aguilan, J.T. et al. Altered abundances of human immunoglobulin M and immunoglobulin G subclasses in Alzheimer's disease frontal cortex. Sci Rep 12, 6934 (2022).

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Martínez, L., Malaina, I., Salcines-Cuevas, D. et al. First computational design using lambda-superstrings and in vivo validation of SARS-CoV-2 vaccine. Sci Rep 12, 6410 (2022).

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Obadia, N., Andrade, G., Leardini-Tristão, M. et al. TLR4 mutation protects neurovascular function and cognitive decline in high-fat diet-fed mice. J Neuroinflammation 19, 104 (2022).

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