Australian and New Zealand
SOCIETY FOR IMMUNOLOGY INC.

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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.

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2021 is finally approaching a close

Debbie Burnett,
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It's been another challenging year for many in the ASI community. While our ability to meet face to face has remained limited, the collaborative nature of the immunological society has allowed many of us to form stronger connections than before and has fostered some remarkable cross-disciplinary and translational research. We've also been fortunate enough to see the rise of a huge amount of public interest in our field and watched as words like "antibody" and "immunological memory" have become part of mainstream vernacular.

In this newsletter edition I hope to celebrate some of the achievements that our members have made over the last 12 months both in their scientific advances and their work in communicating these advances, for example the strategies that lead Scott Byrne to be awarded the ASI Cheers-Buchan Education Award using very innovative creations to inspire passion in the next generation of immunologists.

In addition to highlighting our achievements I hope this newsletter can also shed some light onto the resilience our members have showed in the face of unexpected obstacles presented by the COVID19 pandemic. A key message that I think that many of us have learned in recent months, is that the trials every one of us faces will be different. The border closures, lab shutdowns and home schooling of the last two years have created serious complications for the research of many of our members. Although these setbacks have affected immunologists at all levels, these setbacks often have particularly dramatic effects on the careers of early career researchers, who may have not have the buffer to allow for 6 months of unproductivity or who may have been attempting to move to a new laboratory overseas or interstate. This year may challenge perceptions of success in science and highlight the limitations of our current judging criteria that are based on a very structured set of characteristics. The pandemic, despite itls difficulties, has showcased the creativity of our community to successfully adapt to drastic changes in their career plans. In turn, perhaps we should respond to these achievements with a revaluation of how we measure sucess.

We're very lucky in this newsletter to have fantastic perspective pieces from three extremely talented postdoctoral scientists who faced three very different set of challenges: trying to start a US overseas postdoc as just as the extent of the pandemic became apparent, trying to return home to Australia at the conclusion of an overseas post doc and trying to juggle the ballooning workload of clinical practice, family commitments and immunological research. I hope that these pieces can provide some scope into the diversity of experiences faced by our members. Although these three postdocs were successfully able to navigate the unexpected trials they faced, these perspectives wouldn't even start to encompass the range of experiences faced by ASI members and the extent to which it affected their research.

> This newsletter edition highlights how three diverse postdoctoral experiences can all be considered 'successful' in their own right.

This newsletter edition highlights how three diverse postdoctoral experiences can all be considered 'successful' in their own right. It reminds us to be mindful of how individual circumstances differ dramatically and to keep this in mind when judging success criteria. ■

Secretary Report

Connie Jackaman,
Honorary Secretary
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It is good to see the back of the second year into the pandemic - hopefully 2022 is better than 2021! This year was highlighted by the vaccine rollout and it is incredible that we have access to safe, effective vaccines in only the second year of the pandemic. The end of the year also means that we have a changeover in councillors. Many thanks to outgoing councillors who have worked tirelessly to support ASI members during these challenging times: John Fraser (Past President), Anselm Enders (ACT Branch Councillor), Bree Foley (WA Branch Councillor), Joanna Groom (FIMSA Coordinator), Alejandro Lopez (IUIS Coordinator), Kylie Quinn (WI Coordinator) and Gabriela Khoury (Social Media Coordinator). Particularly to highlight Gabriela Khoury, Alejandro Lopez and Anselm Enders with their dedication in completing multiple terms. Also, a special thanks to John Fraser for his leadership and steady hand as the pandemic evolved in 2020. Welcome to the incoming councillors and thanks for putting your hand up in what has been another challenging year: Gabrielle Belz (Vice President), Julia Ellyard (ACT Branch Councillor), Rachael Zemek (WA Branch Councillor), Damon Tumes (SA Branch Councillor, second term), Antje Blumenthal (Meeting Coordinator, second term), Di Yu (FIMSA Coordinator), Joanne Reed (IUIS Coordinator), Diana Hansen (EDI Coordinator) and Marina Yakou (Social Media Coordinator).

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In response to the pandemic ASI converted the international travel funds towards new career advancement awards. These awards were designed with a broader scope/flexibility to apply for support as needed and assist members at a critical point in their career. Some examples include PhD gap funding, repatriation flights, childcare support, publication costs and support to buy software or reagents otherwise not funded. Due to the flexibility, members can also apply for a standard travel award (national or international) through this scheme. Given the uncertainty of the pandemic, these will continue in 2022 along with the other awards schedule (Cheers-Buchan Education Award, Margaret Baird Award, Jared Purton Award, Public Engagement Award, ICB/CTI Awards). Other initiatives only in 2021 included free student membership and the AbbVie New Horizon Research Award. ASI is also continuing to welcome applications for the Special Initiatives Fund, which are open all year and assessed every quarter. We would love to hear from you if you have a great idea on how to promote the discipline of immunology and support members. As always, we welcome any feedback on any ASI awards or programs as we move into 2022 and please keep an eye out for announcements for the 2022 ASI awards schedule. ■

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Postdocs in a pandemic

Alisa Kane

Early career researcher, clinical immunologist and mother of three

January 2020 - THE FIRST INKLING

Scrolling through Facebook at 6 am in the morning, an activity fuelled by ritual habit rather than a desire to catch up on what my acquaintances are doing in their virtual lives, I come across a post from a medical mum colleague. A relative has suspected SARS somewhere in Asia. Cue multiple responses from other medical mums, "of course not, this is just a severe form of pneumonia. SARS has not existed since 2004." I give no further thought to this post and carry on with the morning routine of haranguing my three primary school aged children out of bed, and off to school with a hastily packed lunch, while I ready myself for a typical day at the hospital. The smoke from the distant fires has settled in the Sydney air and masks wearing has become a fashion trend. I am excited about a meeting with a new colleague, a visiting transplant haematologist and researcher from the National Institutes of Health (NIH) to discuss a new collaboration that will bring world class primary immunodeficiency transplant trials in adult patients to Sydney. This presents an incredible career opportunity to build translational research into an area directly clinically relevant to my patients.

THE FIRST WAVE

Early March 2020

Australia has recorded it's 100th case of COVID-19, and the disease has a name, SARS-COV2. The news from overseas is not good. COVID-19 infections are associated with high mortality rates, and the numbers are climbing. I am thinking about my up-coming trip to a medical science conference in New York. I haven't booked my flights yet. I hear that the hospitals might stop overseas travel, so I quickly book my flights thinking as there have been only a few cases reported in New York, it should be safe.

Late March 2020

Sydney is in lockdown. There are hundreds of cases and climbing. The toilet paper is gone and so has the pasta. My husband brings home ridiculously large quantities of tinned beans, corn and tomato as well as a large bag of rice. It seems that in a crisis, he has decided that chilli con carne will sustain us. Our

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borders are closed and the New York conference is off. My NIH colleague catches a charted government flight back home. There are very few commercial flights out of Australia now. Our labs are closed and there seems little point for her to stay. Our planned inaugural primary immunodeficiency transplant clinic is cancelled and the research is on hold. There is palpable fear in the hospital. The news from overseas is not good. Infectivity is high and health care workers are dying. My core group of uni friends I have known since medical school gather for a zoom meeting. The mood is sombre as we wonder if we will all survive.

April 2020

I zoom an old high school friend in New York. She is a doctor at a major university hospital. The numbers there are exploding and the hospitals are full. The operating theatres have been converted to makeshift ICUs and

she has been redeployed as a COVID intensivist. They have run out of PPE and she has to use the same mask all week. Doctors and nurses are falling sick, and there are not enough tests to go around. They are sent home and told not to come in for testing unless they are sick enough to be admitted.

Our schools are now closed to all children except those of essential workers. My children are amongst the few who attend school. They are down to skeleton staff and there is a sense of solidarity amongst those of us who can't work from home. Some people say we are lucky to send our kids to school, but I wish I could keep them at home and safe. My youngest is in kindergarten and develops an eye-blinking tic from the anxiety. There is no more hand sanitiser to be found. My daughter fills up her empty sanitizer bottle with water and pretends it's real. Education is no longer a priority.

At work we are told not to use masks unless we really need them to preserve our stock. I visit my dying patient in intensive care and hope his family will be allowed in from overseas. I worry about my patients who are immunosuppressed who are vulnerable to the virus. We don't see patients in our clinics anymore. The consultations are by phone and it's hard to adjust. My research projects are on hold because the labs are closed, we can't recruit any patients, and quite frankly with the juggle of clinical work and family, research is hard to prioritise. The clinical work is stressful because of the level of uncertainty. There is talk about the army coming in and building tent hospitals in the local parks for COVID patients. We don't know who will be sent to work there. On ANZAC day, I bring out my saxophone at dawn and play the last post on the drive way. I don't see anyone, but it is dark. Later that morning, I open the front door to find a thoughtful neighbour has left sprigs of rosemary on my door mat.

May 2020 – May 2021 – A period of calm and "zero COVID" goals

Unbelievably, lockdown has suppressed COVID to zero cases and NSW emerges in to a life almost back to normal. The children are back at school and my son's tic goes away. I have a bottle of sanitizer from Four pillar's Gin distillery just in case we run out of sanitizer again. The vaccines are rolled out in February and COVID seems a little less scary. I take up bassoon playing for relaxation, and in case I need an alternative less stressful career.

The labs are open again and the projects are back on track, and the patients are starting to come back to clinic. With my first PhD student starting in 2021 and some seed funding for a new project, I feel hopeful for the year to come.

June- November 2021 – Delta variant and the second wave

Despite all indications from COVID-19 numbers overseas, we are still surprised when delta-variant hits and the lock down strategy is no long effective. The numbers climb and COVID patients start filling up the hospital beds. The non-COVID patients are too scared to come to hospital. Having spent the last year cycling through Elizabeth Kubler Ross's stages of grief (denial, anger, bargaining, depression) I have now reached stage 5 (acceptance) and put my hand up for the COVID ward. Once again, we are no longer seeing routine patients in clinics. There are some patients I have looked after for a year that I am still yet to meet. The new strategy of vaccination and living with COVID, brings along its new challenges as we work to vaccinate patients, worry about vaccine efficacy in our most vulnerable immunosuppressed patients, and deal with the additional work load of requests to arbitrate on vaccine reactions as best we can in a knowledge vacuum.

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The research is back on hold but this time, for me, there is the added responsibility of supervising a PhD student. The pandemic has been particularly challenging for science and medical students and trainee doctors. Where traditionally, these adult learners learn through experience, reflection, and discussion, the distancing and lockdowns have resulted in a significant disruption to this method of education. It has been more difficult to develop rapport with students and trainees and provide quality learning opportunities, feedback or detailed discussions and advice. Admittedly, in between the pressures of clinical work and family, I have had to actively remind myself to find the time and patience to offer teaching and support. Although now we are slowly returning back to projects and face-to-face teaching, I worry what impact this period of reduced opportunity and productivity will have on the careers of these students and junior doctors.

Reflections

As Sydney emerges from lock down again and we come to the end of our second year living with COVID-19, I reflect upon challenges and opportunities that have arisen out of this experience.

The pandemic has led to some arguably positive changes in the work place for working parents with flexible working hours, online meetings and better acceptance of work-life integration. This means that now I can look after my children at home and attend meetings virtually. I no longer have to choose. Recently, I was in a zoom meeting from home and my son who wanted my attention turned off the wifi. Embarrassed, I quickly hot spotted off my phone and joined back in but was this the right decision? The flip side of this flexibility is the lack of boundaries between work and home. The challenge now is how to navigate a healthy

The rapidly evolving space of COVID-19 vaccines and treatment related research has pressure tested this process and the capacity for a human brain (particularly mine) to stay constantly up-to-date with the ever growing and changing data in this field.

balance with the expectations that come attached with this new work place flexibility.

The COVID-19 pandemic has showcased our collective capability as scientists and clinicians for rapid translation of science into clinical practice, with COVID-19 vaccines being developed and rolled out at phenomenal speed and studies on COVID-19 treatment and outcomes delivered at similar efficiency. In medical practice, as clinicians we are required to continuously integrate new knowledge obtained from research to provide best care through self-study, evaluation and application in a clinical setting. The rapidly evolving space of COVID-19 vaccines and treatment related research has pressure tested this process and the capacity for a human brain (particularly mine) to stay constantly up-to-date with the ever growing and changing data in this field. In the 20 years I have been practicing medicine we have gone from carrying a yellow handbook with only the most essential information crammed in small print on paper, to smart phones with endless information searchable at the bed side. The next innovation is how we integrate the sheer volume of knowledge. How can we improve knowledge delivery to clinicians and is there a role for machine learning to facilitate clinical decision making?

Finally, COVID-19 has been the ultimate a test of our resilience. With the reopening of Sydney, the pause button on life has been released and the activities resume. I struggle to recall how I managed the various children's activities, clinical work, research and teaching responsibilities in a life before COVID. We are warned by the school that the children may go through an adjustment period. They are not used to structured activities and interacting with their peers. This sentiment easily applies to adults as well. Although COVID-19 has

impacted us all, everyone's pressures and experiences are different. In these stressful and uncertain times people have lost jobs and opportunities, juggled work and home school, worried about health of themselves and loved ones, and have been and continue to be separated from family and friends. As we navigate new challenges facing our lives living with COVID, we need to arm ourselves with kindness and empathy and weather the storm together. ■

Julia Marchingo

Dr Julia Marchingo completed her PhD with Phil Hodgkin at WEHI in 2015 before moving to Dundee, Scotland on sequential EMBO, MSCA and NHMRC CJ Martin Postdoctoral fellowships working with Doreen Cantrell at the University of Dundee. She has recently returned to Australia to the laboratory of Andreas Strasser at WEHI. Dr Marchingo's scientific work focuses on understanding the quantitative regulation of T cell fate using a range of techniques including mathematical modelling and proteomics approaches.

One of the things I've realised having spent almost the entire coronavirus pandemic in the UK is that …I don't get it! I don't really understand what life was like in the different cities across Australia and New Zealand during the pandemic. This seems to be a common theme when talking to friends and colleagues across the globe – where you were had a huge impact on how you have experienced the last year and a half.

My version of the pandemic as a postdoc in Dundee, Scotland who moved back to Melbourne (which is where I am originally from and where most of my family is located) in mid-2021 will be very different to many other members of the ASI. In this article I've been asked to give you some insight into some of the challenges and day-to-day realities of what the pandemic was like for me as I navigated the conclusion of an overseas postdoc and a move back to Australia.

To set the scene…. The first COVID case detected in Scotland, on the 1st of March 2020 was in the Tayside region, where Dundee is located, so from the start of the Scottish pandemic the virus was right there on my doorstep. The first Scottish death came 2 weeks later on March 13th. On March 24th we went into full lockdown.

For our first lockdown we had strong restrictions across the UK. Only leave the flat for essential purposes (this list will sound familiar to many): grocery shopping, essential work (which didn't include us scientists), medical appointments, or 1 hour exercise a day within a 5-mile radius (one of the few times being in a mixed metric/imperial

measurement system was actually an advantage!)

I lived by myself. For me this also meant no exercising with other people and no opportunity to be connected to a bubble/buddy household. Have a boyfriend/girlfriend/partner you don't live with? Then you need to decide immediately - move in together or don't see each other for an undefined time period.

Labs shut down abruptly. All planned experiments were halted. Overnight my kitchen table was converted into my now inescapable workspace.

From a work perspective I was luckier than most. I moved to Dundee to postdoc with Doreen Cantrell in 2016, working on the molecular regulation of T cell fate, so I was well established in the lab and city when the pandemic struck. My work involved lots of proteomics and some RNAseq experiments, so I had several large datasets to analyse in between being glued to the daily news briefings, watching with a sick sense of dread as cases steadily rose across the UK. I don't have any children or people I needed to care for. In these regards I was better off than many.

Did this mean that being out of the lab for 5 months from March until August didn't impact my work?

Of course it did!

The background stress of knowing the virus was there but not knowing where it was, being stuck in a flat all day every day except for that one blessed hour of exercise – these are not easy things. I'm sure I scared more than one checkout

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worker with the enthusiasm and oversharing that started to occur during my single weekly in person interaction. Zoom calls can't replace the real thing and relationships frayed digitally, with arguments and social pressures already arising around individual rights to take on a risk, seemingly impervious

THE ADVANTAGE OF BEING STUCK IN SCOTLAND – THERE'S A LOT OF OUTDOORS TO GET STUCK IN!

to counterarguments that so-called individual risk is transmitted to the whole community.

I was never going to produce my best work under these conditions.

Like many of you, death by zoom became a thing, though at least for me European/US meetings were in a convenient time zone. In person meetings were of course cancelled. Disappointingly for me this included the first large conference at which I was an invited session chair – a lost opportunity to raise my profile.

Restrictions started ever so gradually easing from late May 2020. My first big milestone – the lifting of the 5-mile travel limit in late June. As a keen hiker the release of mental pressure that came from being able to gaze over the iconic Scottish Highlands again was immense!

Soon coronavirus levels were relatively low (it was UK summer after all) and we were back in the lab on a very limited scheduled basis at the start of August. The general lab rules will sound familiar to many – masks worn at all times, essential lab work only, one person per office/lab bay (which normally holds 3-4), corridors were given one-way signage to maintain social distancing – the building was suddenly a maze of 'wrong way' signs.

From this point onwards I was at least partially in the lab. Having an excellent supervisor who supported the members of her lab who wanted to come back

> Towards the end of 2020 UK COVID cases skyrocketed and restrictions started ramping up again (we had never actually been "free" during this entire time, just less restricted).

was a big factor in this. Not every lab allowed people back in. In labs where bench space was at a premium people started working shifts – 6 am – 2 pm or 2pm – 10 pm. Fortunately, this wasn't me.

Towards the end of 2020 UK COVID cases skyrocketed and restrictions started ramping up again (we had never actually been "free" during this entire time, just less restricted). At least I could bubble with another household or go for a walk with another person this time around, though by December when the weather and footpaths were icy and the sun rose at 9 am and set at 3:30 pm, this wasn't always such an enticing prospect. Politicians were promising families across the UK could see each other for Christmas – this was wishful thinking. With 5 days to go, the government changed the rules, causing a mass scramble as most of the UK (myself included) changed their plans. Then it was full lockdown again for ~4 months. At this point to be perfectly honest I wasn't sure I wanted to go anywhere anyway. UK-wide case rates at their peak in January 2021 were almost 70,000 daily cases, with around 1,800 deaths a day… I didn't go to the lab in

January. I didn't want to leave the flat!

There was finally a glimmer of hope however - the vaccine was starting to trickle out for the most at risk and was proving incredibly effective. Testing was also finally increasing. The university started doing in house saliva testing of staff to monitor for asymptomatic cases. This switched to a twice a week rapid antigen testing in the repurposed sports centre by April, and then to home testing kits by June (available for free from the UK government) Finally, in June of 2021 I was offered my first COVID jab.

From a personal perspective, this was all a huge relief!

Finally, those most vulnerable in the community were protected by vaccination. I wouldn't be responsible for killing my vulnerable colleagues or elderly parents of a friend by unknowingly spreading the virus. Finally, I could test myself on a regular basis to know that it was unlikely I was an infectious carrier at that moment – this was especially important to me since one of my extended household bubble was pregnant – a member of one of the few higher risk groups who weren't being vaccinated early.

Society began to reopen. Work carried on - no longer the vibrant interactive environment it had been in my first years in Dundee, but a series of masked people getting their work done then getting out of there. We had multiple cases of COVID in my workplace though never any transmission events (thank you OH&S!) Friends and colleagues caught COVID. Most were fine, though to quote a friend who had mild COVID "there was absolutely nothing mild about it!" One friend didn't do as well and has now had long COVID for 9 months and counting, still easily exhausted if she tries anything too strenuous. No one I knew was hospitalised and no one I knew died. I am luckier than many.

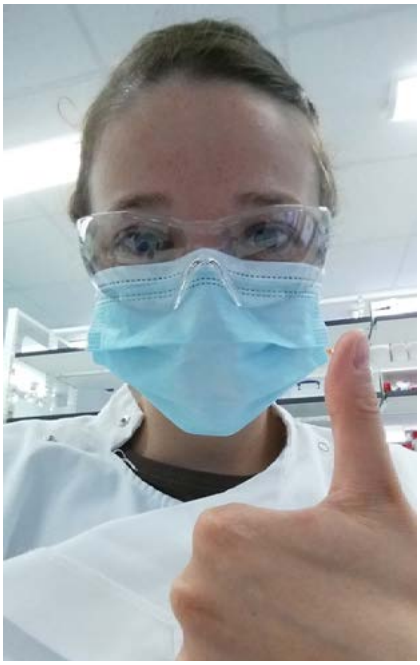
Through all of this there was another source of fairly constant stress brewing in the background… I was scheduled to return to Melbourne in August 2021.

In my original plans the last year of my postdoc was the time to finish off the last of my Dundee work and push forward with developing a new independent project as I move into the second half of my CJ Martin fellowship (I'm starting back with Andreas Strasser at WEHI at the end of this year). Instead, with a few months to go I was still trying to fit in essential delayed Dundee-project experiments, and only just starting on preliminary experiments for my own ideas. Mouse lines that had to be substantially reduced as part of our ethical responsibilities at the start of the pandemic needed to be expanded again. My plans were easily more than half a year behind

But this was not the main source of my anxiety surrounding finishing up in Scotland. Given that politicians' promises of getting Australians stuck overseas home was still so thoroughly not being achieved, how to get back to Australia was a large challenge looming on the horizon.

For me this problem had 2 parts which in any other year wouldn't have been difficult in the slightest: 1) my passport expired in 2020 and 2) I needed to book a flight that could actually get me back to Australia in mid-2021.

My passport could only be renewed by an in-person appointment down in London (a 6-hour train journey away and where the highest COVID case rates in the UK were pretty much always located). My plan to do this in April 2020 of course didn't happen



FINALLY BACK IN THE LAB!

To quote a friend who had mild COVID "there was absolutely nothing mild about it!" One friend didn't do as well and has now had long COVID for 9 months and counting, still easily exhausted if she tries anything too strenuous. No one I knew was hospitalised and no one I knew died.

and my rebooked appointment later that year was also thwarted by the reintroduction of COVID restrictions as cases rose. From January until April 2021 non-essential UK businesses shut down – it turns out the passport service at the Australian High Commission is considered one of these. Thankfully the Australian government finally allowed applications to be processed via mail from April 2021 onwards (though the photography services that guidelines insisted were different to UK photobooths and necessary for a successful application didn't actually open until a few weeks later) – so with a scant 3 months left before when I was planning to leave and more than a year after I had tried to start the process, I finally had a valid passport again.

Booking a flight back to Australia was fraught with uncertainty (only added to by not having a valid passport at the time). Stop-over countries needed to be considered, with different countries display different tendencies to change rules and/or shut down flights from the UK at the last minute. Tickets were exorbitantly expensive and continual stories of Australians being stuck overseas and having their flights cancelled again and again were spamming my newsfeed (because of course I kept clicking on them and feeding the algorithm!)

I researched this all then took my best bet and booked my flight. About 2 months before I was due to fly, Australia halved incoming places. The stress!!! So, what can you do? You call your airline, you check – Yes, my flight is still running. Yes, I still have a place. And you check again just before it's time to give notice on your flat – Yes, the flight is still running. Yes, you're still on it…. I

RETURNING TO AUSTRALIA IN FIRST CLASS

> With one week to go, COVID test booked most of my worldly possession already shipped to Melbourne, the excited feeling that I'm actually going home hits.... Then, 4 days before the flight – in fact on the morning I was moving out of my flat – a one line email – flight cancelled! The first flight they can rebook me on... January 2022!

was honestly sceptical up until the week before... surely it will be cancelled by now if it's going to happen? Surely, I can't be this lucky?

With one week to go, COVID test booked most of my worldly possession already shipped to Melbourne, the excited feeling that I'm actually going home hits.... Then, 4 days before the flight – in fact on the morning I was moving out of my flat – a one line email – flight cancelled! The first flight they can rebook me on... January 2022!

Book it! What else can I do? I still have the last bits of my flat to frantically scrub and a few last items to move out – I don't have the time to figure out what happens next now that I'm potentially stuck in Scotland for an extra 5 months, having finished my job, given up my flat and moved the vast majority of my possessions and money back to Australia....

These are ultimately not insurmountable problems, especially with the huge local support network I had accumulated over the last 5 years, but they are still not easy. I was staying temporarily with a friend from the lab starting to organise a visa extension, housing solutions and whether I could return to my Dundee job for a little while longer when a seeming miracle occurred (facilitated by getting some good professional help, throwing substantial quantities of money at the problem and a whole heap of luck)...

A last-minute first-class ticket became available on a flight for tomorrow! The only reason I could take it? Because I was waitlisted for a completely different flight for the same day, so on the very unlikely off-chance that I did actually get called up I had gone and gotten a coronavirus PCR test. If I hadn't done this test, if I hadn't had the connections to get me the help I needed (a huge thank you to my supervisor Andreas Strasser for making this connection with Mark Malmberg from Continental Pacific Travel), if I had been anyone other than a single person with sufficient money to throw at the problem and a high degree of luck, this wouldn't have been possible and I would still be navigating the extreme uncertainty of waiting for the Australian government to change incoming traveller caps, without any guarantee that my rebooked flight in January would actually run.

So here I am, back in Melbourne after the most luxurious 24 hrs in transit I've ever experienced, via 2 weeks sans fresh air in a hotel room in Brisbane (though otherwise in a very comfortable room, sunshine beaming through the window, being fed 3 decent meals a day – things could have certainly been worse!) and 2 weeks taking advantage of being in an effectively COVID-free Queensland to enjoy a nice wee holiday (see jealousy inducing holiday snaps).

Reflecting back on the last year and a half, I think I've had a relatively 'easy' pandemic all things considered - though this is to some extent due to my positive outlook making a comeback rather than the fact that I didn't come up against some very stressful challenges. These circumstances have invariably impacted not only my ability to work and conclude my overseas postdoc but also quite substantially influenced how I think and feel about various issues that are arising as Australia moves toward reopening. Back in Melbourne lockdown I'm suddenly (virtually) surrounded by a lot of people whose experiences I don't necessarily understand.

I think it's really easy to fall into the trap when talking about widely different pandemic experiences to make it into a competition of "who had it worse". I don't want to fall into this trap, and I hope this perspective piece won't be taken in this way. I hope instead it gives some insight into the sorts of challenges that arose due to my differing circumstances – this diversity in challenges within our surrounding community will become increasingly more common as borders reopen and the international mobility that has long been associated with a scientific career starts to return. I look forward in the coming months to hear more about the experience of others as I start in a new job as restrictions begin to lift. I'm excited to be back, though this certainly isn't how I imagined it would be when I stepped onto that plane to Scotland just over 5 years ago. ■

> I think it's really easy to fall into the trap when talking about widely different pandemic experiences to make it into a competition of "who had it worse".

Nathan Zammit

Nathan is a postdoctoral research fellow at Harvard Medical School in the lab of Diane Mathis and Christophe Benoist, Boston, MA. He completed his PhD at the Garvan Institute in the laboratory of Shane Grey investigating the role of the A20 molecule and A20 gene variants in inflammatory disease and transplant rejection.

In early 2020 I had just received a J1 visa that would allow me to begin a new chapter in my career and take part in some interesting research in the laboratory of Diane Mathis and Christophe Benoist at Harvard Medical School. During this time COVID19 was starting to make headlines, then by March the severity of the situation became fully apparent with WHO declaring COVID19 a pandemic. Indeed, as we know, COVID19 continued to spread in many countries including the US, resulting in the implementation of safety measures to slow the spread, which included planned laboratory shutdowns, followed by restricted access and step-wise reopening protocols. This led to the decision in the months following to postpone my post-doc for 6 months, to coincide with laboratories reopening at a close to normal capacity. A great decision that I knew was coming but I was dreading! Logistically, I had to make an amendment to my J1 visa, refund flight fares and forfeit some expenses, tied with having already paid a deposit on an apartment very early that year (perhaps due to excitement!), which was graciously covered by my supervisor. With an extra 6 months to spare, I was fortunate to be able to continue my research position at The Garvan Institute in Sydney, and finish some manuscripts from home. My new 'future' lab also made me feel welcome during this time by inviting me to their zoom journal clubs. A silver lining to the situation was a chance to see family and friends that I would have missed in my hasty preparations.

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When it came time to move to Boston, Australia still had a tight border and near zero COVID cases. I was therefore required to apply for a permit to leave from the Australian Government, which was granted based on my extended stay (longer than 3 months). I was able to find a flight conducted by United Airlines. Like anyone I am always happy when traveling to end up with a bonus empty chair or two to relax in, but for this flight I had at least 10 rows in front and behind all to myself!! There were very few customers on board! Admittedly, traveling to the US from a relatively COVID-free Australia felt strange, nevertheless I was impressed by which my new work place was handling COVID, which included weekly PCR tests, indoor use of masks and social distancing that continue to this day. Not long after settling into my new city, I received the Pfizer vaccine, a good 6 months before my family in OZ! Outside of the lab, I find myself sticking to outdoor activities, which has been a great way to explore my new home, this included a lab outing to Maine - the lobster is spectacular!

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COMMUNITY SPIRIT ON DISPLAY IN BOSTON COMMONS

Overall, I was very lucky. I avoided the US laboratory shutdowns by postponing my arrival, and soon after arriving in the US, I avoided the delta variant lock-down in Sydney. An interesting note is that many fellowship funding bodies have also extended their eligibility criteria to include an extra year due to the pandemic interfering with many peoples research activities.

> I have been blown away by the community's perseverance and dedication during the pandemic in Australia and the USA, from scientists working on COVID19 to support staff that keep everything running, and not to mention the front line workers. If I have learnt anything during the last few years, it is the important role immunological research will have for our global future, and it is very exciting and a privilege to be involved in it.

Lastly, I have been blown away by the community's perseverance and dedication during the pandemic in Australia and the USA, from scientists working on COVID19 to support staff that keep everything running, and not to mention the front line workers. If I have learnt anything during the last few years, it is the important role immunological research will have for our global future, and it is very exciting and a privilege to be involved in it. ■

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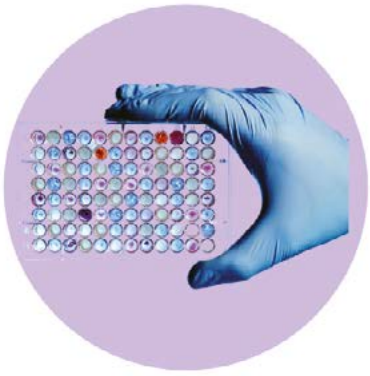
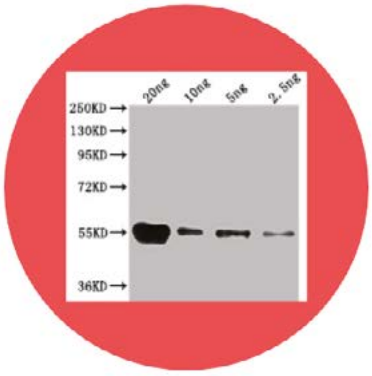
JOMAR LIFE RESEARCH

Reagent Highlights



Kits

Mycoplasma detection
Biochemical Assays
Endotoxin Detection & Removal
ELISA | Immunoassays
Targeted Metabolomics Kits
Sample collection/preservation



Proteins

Proteins | Tetramers
Western Blot - Gels, Stains,
Antibodies, Membranes, Buffers

Cell Analysis

Flow Cytometry
Cell Stains & Viability Dyes
Antibodies: Primary
Secondary | Isotype controls

Cell Culture

Selective antibiotics
Antimicrobials
Cell lines
Reporter cells
Transfection reagents

Small Molecules

Pathway inhibitors
Innate Immunity ligands

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info@jlresearch.com.au

Contact Us

The impacts of COVID

Women's Initiative coordinator

Kylie Quinn
kylie.quinn@rmit.edu.au

As 2021 draws to a close, many are reflecting on the impacts of the past few years of COVID.

COVID has clearly impacted the careers of many researchers around the world. Nature's yearly survey of job satisfaction and perceptions (https://www.nature.com/articles/d41586-021-03040-1) highlighted that many around the world are reckoning with the cumulative impacts of disruption across 2020/21.

A recent major survey of researchers in the US and Europe (https://www.nature.com/articles/s41467-021-26428-z) has documented exactly what these impacts are. While workloads in the northern hemisphere are returning to normal, the number of new projects started in 2021 is substantially lower compared to previous years. This deficit in new projects was borne disproportionately by researchers that were <5 years post PhD, identified as female, doing non-COVID research and/or working in "bench sciences" such as biochemistry, cellular and molecular biology. Given the prolonged COVID restrictions experienced in some parts of Australia, we might expect similar and perhaps stronger impacts on ASI membership.

> A big, unresolved question is, therefore, how does our sector equitably account for these very different experiences during the COVID pandemic?

A big, unresolved question is, therefore, how does our sector equitably account for these very different experiences during the COVID pandemic?

One way that funding bodies and other institutions currently try to account for this is statements on career disruption. These statements are an imperfect tool- for example, this fantastic thread by Dr Anne Fletcher sums it up perfectly how they fail primary carers (https://twitter.com/ImmunologyMelb/status/1455494202167418883?s=20). Unfortunately, in many settings, they are the only mechanism available to try to communicate the impact of different career disruptions on researchers. Communicating these impacts will be important for many researchers submitting grant, promotions and job applications next year and into the future. To help our membership navigate this, Jonathan O'Donnell from the Research Whisperer team joined the ASI Annual Meeting for the Equity, Diversity and Inclusion (EDI) session.

> Jonathan advises researchers at the University of Melbourne on grant and research applications and, as part of Research Whisperer, he writes about ways to make research and academia more equitable and sustainable.

Jonathan advises researchers at the University of Melbourne on grant and research applications and, as part of Research Whisperer, he writes about ways to make research and academia more equitable and sustainable. He wrote a great article on writing relative to opportunity/COVID disruption statements in 2020 (https://researchwhisperer.org/2020/11/03/talking-about-covid-19/) and revisited many of these ideas in his presentation at the Annual Meeting. I'd highly recommend that researchers applying

for opportunities over the next few years put Jonathan's advice into practice where they can. This kind of advice is also helpful for people who assess grant, promotion and job applications and must account for different experiences within our community in these assessments.

Beyond the EDI session, the ASI Annual Meeting has been a welcome opportunity for our research community to come together again, support each other and showcase our work. I'd like to congratulate the organisers of the ASI Annual Meeting and the SIG leaders for putting together an exceptional program- a great demonstration of the diversity of science and diversity of presenters across genders, career stage and geography.

With the end of year, I'd like to congratulate awardees in the latest round of Carer Awards: Muhammad Ikhtear Uddin, Tabinda Hussain and Dr Lisa Mielke. I'd also like to congratulate A/Prof Joanna Groom and Prof Antje Blumenthal, joint awardees for the last round of the Margaret Baird Lectureship. Both are incredible leaders in gender equity and broader diversity and inclusion. They drive action and change in their institutions, the Walter and Eliza Hall Institute and the University of Queensland, respectively, which are implementing a range of best practices. They have also both supported adapting

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and spreading these practices within the immunology community. I am excited to see their work recognised and look forward to hearing about their work at next year's online lectureship for International Women's Day.

My term finishes at the end of this year and I warmly welcome A/Prof Diana Hansen into the new role of Equity Diversity and Inclusion Committee Chairperson. Diana is a group leader at the WEHI where her group works on understanding immunity to malaria and dengue. She brings with extensive experience in equity initiatives that support community groups focused on participation of women in sport and she will be the inaugural chair of our new EDI Committee. I wish her and the EDI Committee all the best in the next phase of EDI in ASI.

I'd like to thank the many individuals who have helped me during my term- particularly my predecessors Prof Roslyn Kemp and Dr Vanessa Bryant, but many folks have given me their advice and time, including the incoming EDI Committee.

Finally, I'd like to thank the many individuals who have helped me during my term- particularly my predecessors Prof Roslyn Kemp and Dr Vanessa Bryant, but many folks have given me their advice and time, including the incoming EDI Committee. EDI work requires a collective approach and this role is only as effective as the collective knowledge it can draw upon, so I have deeply valued others' input. ■

ASI outgoing social media coordinator

Gabriela Khoury
Social Media Coordinator
gabriela.khoury@monash.edu

When Debbie contacted the outgoing councillors asking for us to contribute to the newsletter it was a pleasant opportunity to reflect on how far ASI social media has gone over the years. With a growing online presence on Twitter (3550+ Followers), Facebook (1275+ Likes and 1380+ Followers) and more in this article I thought I would share the journey of how we got to where we are now.

In 2011, I joined my first Day of Immunology organising committee lead by Claerwen Jones and later Wendy Winnall (both the University of Melbourne). Excited by the opportunity to promote immunology to the public and keen to get our message out there I created the Day of Immunology Twitter and Facebook accounts. Having never used twitter before I quickly learnt the potential of this platform and with the right promotional campaigns our DoI event attendance entered a new age!

I created the Day of Immunology Twitter and Facebook accounts. Having never used twitter before I quickly learnt the potential of this platform and with the right promotional campaigns our DoI event attendance entered a new age!

In 2013, the growing success of the accounts caught the attention of ASI President Dale Godfrey (The Peter Doherty Institute of Infection and Immunity). He was impressed by the level of followers I had generated for the DoI in a short period and that when he googled immunology and Australia the DoI account was the top of the search. He invited me to establish an online presence for ASI on social media and I was more than happy to take on the challenge! Over the years there has been lots of hard work generating content to build the Society's following, running competitions, regularly posting articles from both of our journals, coordinating content for ASI events, celebrating member successes live-tweeting and much more. Being the 'face' of ASI, has meant lots of behind the scenes work and while rare, managing complicated situations which can arise on social media and developing important policies. The social media coordinator role has evolved over the years and formally became a council position more recently.

One of the best parts of the role has been designing new campaigns like 'I Am An Immunologist' to showcase our immunologists and working together on initiatives with other councillors and ASI members. To highlight a few over the years, a special shoutout to Dr Kylie Quinn for her work on the Women's Initiative related campaigns, working on the Q and Immunology series by Susan Christo, and working with past ASI member Melanie Shakespear who initiated what is now the annual conference social media ambassador program. This program is stronger than ever! It has been a great experience watching ASI members like Catriona Nguyen-Robertson's start their successful social media career as an ASI social media Ambassador at our annual conference. I highly encourage all students to participant in this program, you never know where it will take you!

From the original accounts off shoots have formed. In 2017 Jessica Borger (Monash University), started a twitter account for Immunology & Cell Biology. Last year I launched the Clinical & Translational Immunology twitter

> From the original accounts off shoots have formed. In 2017 Jessica Borger (Monash University), started a twitter account for Immunology & Cell Biology. Last year I launched the Clinical & Translational Immunology twitter account both growing in momentum and play an important role in the ASI's global presence.

account both growing in momentum and play an important role in the ASI's global presence. At least three of our SIG have joined the twittersphere and are promoting their specialities to membership and beyond. Tyani Chan our General Manager has connected ASI to Linkedin to reach our non-scientific, professional audiences with news about public events and scientifically accurate information.

I'd really like to acknowledge Claerwen and Dale. Claerwen, who was always encouraging and open minded to new ideas for Day of Immunology and especially taking a chance with social media. And Dale, for trusting me with his vision that it was time for the ASI to join the social network. I'm really pleased to have taken on that challenge, but now it's time to pass the torch on to our new coordinator Marina Yakou (The Olivia Newton-John Cancer Research Institute). At first this may feel a little overwhelming but the experience you will gain from coordinating the accounts, the professional networks and working with ASI council, committees and members will be a rewarding one! Good luck!

I won't be completely offline from immunology social media. I will continue to run the @DayofImmunology twitter account in my role as Day of Immunology coordinator. In exciting news, I joined the IUIS social media team this year and will continue to do what I love, promoting immunology and showcasing Australian and New Zealand Immunology to the world!

For one last time, don't forget to follow ASI on social media we have something for everyone! ■

ASI on Social Media

Twitter

ASI

ASI Immunometabolism SIG

Stromal Immunology SIG

Wild and Comparative Immunology SIG

Immunology Group of Victoria and Tasmania

Day of Immunology

Clinical & Translational Immunology

Immunology & Cell Biology

Facebook

ASI Facebook

Facebook

ASI is also on

Linkedin

Inaugural Cheers-Buchan Teaching Award Recipient 2020

Scott Byrne – Professor of Immunology
University of Sydney

I am a Professor of Immunology and a teaching and research academic at The University of Sydney where I lead the Cellular Photoimmunology Group. I also co-lead the Autoinflammatory Diseases Group at the Westmead Institute for Medical Research where I am the Co-Director of the Centre for Immunology and Allergy Research.

I am an immunologist who is internationally known and decorated for my studies on how exposure of the skin to solar ultraviolet (UV) radiation modulates the immune system. This dedication to photo-immunology led to my discovery that a major way in which UV exerts its effects on the immune system is via activation of a unique subset of immune modulatory B cells. My team and I have also identified a number of immune cells and molecules that can be targeted therapeutically by novel immune modulators. This is allowing us to design innovative strategies to prevent and treat a range of diseases affected by sunlight exposure including skin cancer, multiple sclerosis and cardiovascular disease. We are also developing and testing novel, patented immune-modulating drugs that could lead to breakthroughs in the treatment of diseases like psoriasis and Crohn's disease.

As an active member since 1997 and someone who is passionate about training and inspiring the next generation of immunologists, it is a tremendous honour to be awarded the inaugural Cheers-Buchan Teaching Award from the ASI. I am especially proud of my role in guiding and inspiring more than 4,300 undergraduate and 200 postgraduate Masters students through the wonders of our immune system - many of whom have gone on to do Honours and PhDs and are now ASI members themselves. Other highlights from my teaching career include helping design a new 240-seat award-winning "super-lab" (pictured), establishing 12 new units of study (including 2 advanced Immunology units), 2 new majors (Immunology & Pathology and Applied Medical Science), and in 2021 a new Master of Biomedical Science.

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I take a student-centred, research-led and scholarly approach to all aspects of my teaching. Lectures include descriptions of real experiments, and practicals are based on techniques used in research and clinical laboratories. I encourage active participation, debate and collaboration in lectures, resulting in very positive learning experiences. In one example, students explore the concept of "trusted-evidence" using their devices to find data about viral outbreaks and vaccination. When I was in charge of delivering 2nd year immunology I introduced the "Legends of Australian Immunology" into tutorials which aligned with other face-to-face activities. When learning about Ian Frazer for example, students were concurrently learning about vaccination in their lectures and practicals. I create memorable learning experiences to explain difficult immunological concepts. For example I co-designed a "Balloon" practical to explain antigen-antibody

STUDENTS ASSUME THE SHAPE OF AN ANTIBODY AND WEAR COLOURED GLOVES TO INDICATE DIFFERENT VARIABLE REGIONS

YOU CAN ONLY HOLD ON TO BALLOONS OF THE SAME COLOUR (INDICATING ANTIGEN-SPECIFICITY)

ADDING A "FLUORESCENT" TAG TO THE DETECTING ANTIBODY ALLOWS US TO "SEE" ANTIBODY-BINDING

> This award sends a strong signal that the Immunology research community values Immunology education.

interactions and immune-complexes in an unforgettable way. Students don different coloured gloves, assume the "Y-shape" of an antibody and are only permitted to "hold-on" to balloons of the same colour (illustrating antigen-specificity) – see below.

Teaching immunology is a joy – it helps temper the extreme highs and lows of research. This award sends a strong signal that the Immunology research community values Immunology education. I intend to use the prize money to attend the next face-to-face ASI annual meeting – hope to see you all there! ■

Gordon Ada Career Advancement Award

Jaclyn Pearson
Hudson Institute of Medical Research

I am an NHMRC Career Development Fellow and Group Leader of the Host-Pathogen Interactions lab at the Hudson Institute of Medical Research in Melbourne. I completed my undergraduate studies at the University of Western Australia (UWA) before taking a four-year break to tour in an all-girl rock band called Lash. In 2007, I was drawn back to science and completed an Honours degree at UWA followed by a PhD in the Department of Microbiology and Immunology at the University of Melbourne with Prof. Liz Hartland in 2013. Here I studied the complex interactions between host and gastrointestinal bacterial pathogens. In 2014, I was awarded an NHMRC Peter Doherty ECF and in 2017, I was recruited as a lab head to the Centre for Innate Immunity and Infectious Diseases at the Hudson Institute. In 2019 I received my NHMRC Career Development Fellowship and currently lead a small group of 4 talented scientists (see photo).

> I completed my undergraduate studies at the University of Western Australia (UWA) before taking a four-year break to tour in an all-girl rock band called Lash.

> The major focus of my current research is understanding host cell death and inflammatory responses to infection with bacterial gastrointestinal pathogens including E. coli, Salmonella, and Shigella. We have also taken a keen interest in multidrug resistant variants of these pathogens which are rapidly emerging globally.

I RECEIVED MY NHMRC CAREER DEVELOPMENT FELLOWSHIP AND CURRENTLY LEAD A SMALL GROUP OF 4 TALENTED SCIENTISTS

The major focus of my current research is understanding host cell death and inflammatory responses to infection with bacterial gastrointestinal pathogens including E. coli, Salmonella, and Shigella. We have also taken a keen interest in multidrug resistant variants of these pathogens which are rapidly

emerging globally. We are working towards understanding the relationship between bacterial virulence and antimicrobial resistance to determine how this may drive the evolution of 'hypervirulent' pathogens that are close to being untreatable with current therapeutics.

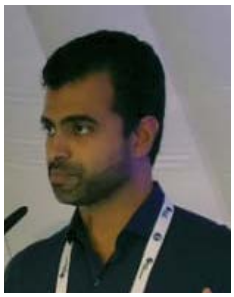
> I am really thrilled and extremely grateful to have been awarded a Gordon Ada Career Advancement Award by the ASI. Between 2019 and 2021 I have had two children which has presented the usual challenges of leading a research group while away on maternity leave and being primary carer (limited time to write papers and funding applications, most importantly).

I am really thrilled and extremely grateful to have been awarded a Gordon Ada Career Advancement Award by the ASI. Between 2019 and 2021 I have had two children which has presented the usual challenges of leading a research group while away on maternity leave and being primary carer (limited time to write papers and funding applications, most importantly). However, in 2021 I was put on bedrest for 5 months of my pregnancy due to complications which took me away from the lab unexpectedly early and limited all the experimental and supervisory work I was undertaking. Luckily it gave me time to apply for funding such as this award. The Gordon Ada Career Advancement Award has provided funds for publication costs of a recent review article we were invited to write on host cell death responses to Citrobacter rodentium infection. Citrobacter rodentium is the definitive in vivo model for studying host responses to and the pathogenesis of gastrointestinal infections in humans, as well as host immunity in inflammatory bowel disease. I have worked with the Citrobacter model since the beginning of my PhD, and it has proven extremely fruitful in publications when dissecting host responses to infection. We currently collaborate with multiple groups across Melbourne using this model to understand different disease phenotypes and are always happy to discuss our disease model with anyone who is interested in using it to help further their discoveries. ■

> The Gordon Ada Career Advancement Award has provided funds for publication costs of a recent review article we were invited to write on host cell death responses to Citrobacter rodentium infection.

> We currently collaborate with multiple groups across Melbourne using this model to understand different disease phenotypes and are always happy to discuss our disease model with anyone who is interested in using it to help further their discoveries.

Post-doctoral travel Awards



Sandip D. Kamath

This is a report of my international research travel made possible by the ASI Post-doctoral international travel award in 2019 before the COVID pandemic had hit. In May 2019, I travelled to Lisbon, Portugal for presenting my research at the European Academy of Allergy and Clinical Immunology Annual Congress, and thereafter, I travelled to Austria to work with existing collaborators and form new research collaborations.

Conference experience: Visiting Lisbon for the first time, it was an amazing experience to explore a beautiful European city, and in the European summer which offered sunny blue skies and a cool weather to enjoy the offering of this city. For the four days, that I got the opportunity to meet international researchers with whom I have collaborated on different project mainly from Austria, Norway, Denmark, and the United States. This visit initiated two new collaborations, especially related to researchers involved in structural characterisation of food allergens, and experts in animal models of food allergy.

During this conference, I had the opportunity to present a talk on my research on the inhalational exposure of food allergens leading to allergic sensitization and asthma in seafood processing workers. Moreover, a poster was presented on my research on the clinical and immunological assessment of isolated natural compounds as novel therapeutics in a BALB/c mouse model of peanut allergy. Both these presentations generated significant interest among researchers attending this conference. The main theme of this year's annual congress was on precision medicine, and I had the opportunity to discuss ideas on component resolved diagnostics for allergic diseases, which forms a central part of my research program.

> In May 2019, I travelled to Lisbon, Portugal for presenting my research at the European Academy of Allergy and Clinical Immunology Annual Congress, and thereafter, I travelled to Austria to work with existing collaborators and form new research collaborations.

Research Visit to Austria: Since I was travelling to Europe for this conference, I used the opportunity to visit two Universities to work on collaborative projects in June-July 2019.

1. The Medical University of Vienna: I visited the laboratory of Prof. Heimo Breiteneder and A/Prof. Christine Hafner who are established research in diagnostic and immunotherapy research for food allergy. Here I spent 4-5 weeks to train myself and work on specific allergenic proteins and their characterization by PBMC proliferation assay using fresh blood collected from house dust mite and shellfish allergic patients. During this visit, I was also able to contribute my expertise in in vitro diagnostic assay, and recombinant protein production and purification which eventually led to joint publications. [Kalic T, et al. *Mol Immunol*. ***2019***. (*10.1016/j.molimm.2019.04.029*)., Kalic T, et al. *J Allergy Clin Immunol Pract*. **2020**. (*10.1016/j.jaip.2020.04.063*).]
2. University of Salzburg: I visited the research groups of A/Prof. Richard Weiss and Prof. Fatima Ferreira, with whom I had ongoing collaborative research. Here I had the opportunity to discuss writing publications and future joint research projects. This collaboration eventually led to publishing my work in Allergy. [Kamath SD, et al. Allergy. 2020. (10.1111/all.14410)]

The planning and execution of this visit was strongly supported by my mentor and team lead, Prof. Andreas Lopata of the Molecular Allergy Research Laboratory. I thank the Australian Institute of Tropical Health and Medicine; James Cook University which has played a crucial role helping early career researchers like me by providing research training and professional development skills. I also thank the National Health and Medical Research Council from whom I received an Early Career Fellowship during this visit.

Lessons learnt during an international research/conference visit: I would

like to share some of my experience of travelling to the other side of the world with ASI students and post-docs.

1. **Pre-plan meetings with researchers and collaborators** – At least a month before your travel, drop an email with researchers with whom you want to meet in person and decide a time and day. If its at the conference it helps to pre-plan a specific section to meet up at. When visiting research group at universities, book their time in advance. People are very welcoming when you make the effort to visit them from so far (Australia).
2. **Talk to researchers!:** Don't be hesitant to talk to researchers that you meet at a conference. There is a lot of potential to form productive collaborations. Do not leave the conversation at the conference. Make sure you catch-up and continue the discussion once you're back home.
3. **Keep a traveller card and local cash** – Using a travel card saves a lot of money in fees and exchange rates while using your local credit card. Also keep a minimum amount of cash handy, since some places (non-touristy) wont accept cards.

When visiting research group at universities, book their time in advance. People are very welcoming when you make the effort to visit them from so far (Australia).

4. **A good pair of walking shoes** – I utilized most of my evenings and weekends to explore the city on foot. In the end, it ends up being a very long walk (up and down slopes in Lisbon!). Pack a nice pair of shoes meant for comfort. ■

Luca Hensen

My name is Luca Hensen and I have just moved from Melbourne to Tübingen in Germany to take up a role as a postdoctoral research fellow at the University Hospital in Tübingen. In Melbourne I worked in the laboratory of Prof. Katherine Kedzierska to study adaptive immunity to influenza viruses with a focus on T cell response in Indigenous Australians. Indigenous Australians are highly affected by seasonal but especially newly emerging pandemic influenza viruses. Our work was focussed on identified target to protect Indigenous Australians from developing severe influenza virus infections and contribute to closing the health gap. We have identified novel influenza virus epitopes presented by Indigenous-associated HLAs that could provide vaccine targets for a universal cross-protective vaccine and studied vaccine responses to the quadrivalent inactivated influenza vaccine. During the COVID pandemic I got the opportunity to be heavily involved in clinical research to assess immune responses to various SARS-CoV-2 vaccines as well as natural infection to identify predictors of protective immunity as well as risk factors for severe disease outcome. This work has heavily influenced my decision to stay in academia and set my focus on clinical research for the next step of my scientific journey.

During the COVID pandemic I got the opportunity to be heavily involved in clinical research to assess immune responses to various SARS-CoV-2 vaccines as well as natural infection to identify predictors of protective immunity as well as risk factors for severe disease outcome. This work has heavily influenced my decision to stay in academia and set my focus on clinical research for the next step of my scientific journey.

Heavy hearted I decided that it was time to leave Australia and move back to Germany and start a new position in Tübingen. The University Hospital is one of the centres of excellence for cancer research in Germany with the focus on cancer immunotherapy. My role in the team of Prof. Claudia Lengerke is to improve the generation of CAR T cells for blood cancer treatment. This involves identifying the optimal conditions for the generation of CAR T cells as well as parameters that might affect CAR T cell therapy effectiveness. Transitioning from immunity to respiratory diseases to cancer therapy is a huge step for me but I am thrilled to provide my acquired knowledge on T cell immunology on cancer treatment while learning new skills.

Moving after my PhD once around the world and setting up a new life from zero has put a lot of financial pressure on me so I was grateful that I could use my international travel award for my flights back home. Especially in these pandemic times flights are extremely expensive and ASI covering for them was one thing less to worry about in these undoubtfully stressful times. Once I am all set up and international travel can be resumed, I am looking forward to coming back to Australia to graduate properly in person and see everyone again. Latest hopefully at ASI2022! ■

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Lianne Lansink

I am Lianne, a fourth-year PhD student in Associate Professor Ashraful Haque's laboratory at the Peter Doherty Institute for Infection & Immunity in Melbourne. Originally from The Netherlands and recently returned there, where I am currently writing up my dissertation. I moved to Brisbane in 2016, initially on an exchange semester and stayed around for a 9-month research project, as part of my bachelor's degree at the University of Amsterdam (UvA). Shortly after I started a PhD through QUT. Here, I delved into the basic biology of host-pathogen interactions during malaria infection, with a specific focus on inflammation.

A previous study by our laboratory, in collaboration with the Infection Analytics group at the Kirby Institute, UNSW, discovered host-mediated impairment of maturation of Plasmodium parasites, which forms the basis of my PhD. My project uncovered the role for the host inflammatory environment, containing yet unidentified inhibitory factor(s), in

> These conferences allowed me to connect to fellow researcher and reinvigorate my passion for biomedical science. They even resulted in invitations to apply to some postdoctoral fellowships.

the inhibition of parasite maturation and a rapid stage-specific response by the parasite to host inflammation. This newfound knowledge could eventually aid in the development of much needed new treatment and prevention methods.

Although a lot of my work focussed on parasites and host-parasite interactions, I was lucky enough to be in a laboratory that mainly studies T cell memory and specialises in scRNAseq methods. However much I love working with parasites, I do still enjoy working with colleagues on T cell and other immunological projects.

I have been incredibly fortunate to receive ASI's postgraduate international travel award. Unfortunately, the pandemic prevented me from visiting conferences in person, yet this did not keep me from attending international conferences in the digital space. My attendance and the opportunity to orally present at BioMalPar XVI resulted in invaluable new connections in Europe. This award also allowed me to orally present and attend the Deutschen Gesellschaft für Parasitologie (DPG) conference and American Association of Immunologists (AAI) Virtual Immunology 2021. These conferences allowed me to connect to fellow researcher and reinvigorate my passion for biomedical science. They even resulted in invitations to apply to some postdoctoral fellowships. Thank you ASI for allowing me these opportunities in challenging times! ■

> Thank you ASI for allowing me these opportunities in challenging times!

Emma Petley

I completed my PhD in August 2021 in the Beavis and Darcy laboratories at the Peter MacCallum Cancer Centre in Melbourne. My research focuses on investigating the endogenous role of mucosal associated invariant T (MAIT) cells in cancer and their potential use in chimeric antigen receptor (CAR) T cell therapy. During my PhD, I found that activated MAIT cells can activate NK cells leading to potent anti-tumour activity, which I recently published in Nature Communications.

Prior to the pandemic, I planned to use this travel grant to visit the 6th International Cancer Immunotherapy Conference (CICON20) in New York, the British Society for Immunology Conference in Edinburg, as well as a post-doctoral laboratory visit with international experts of MAIT cells and cancer immunology. Once restrictions on international travel are eased, I look forward to having the opportunity to present my work at an international conference and visit overseas labs to search for potential post-doctoral positions. Thank you to ASI for granting me this award! Not only has it provided me with a future opportunity to present my work overseas, which I am greatly looking forward to, but it has also given me confidence in my ability as a scientist. Hopefully see you at ASI 2022 in Melbourne! ■

> Thank you to ASI for granting me this award! Not only has it provided me with a future opportunity to present my work overseas, which I am greatly looking forward to, but it has also given me confidence in my ability as a scientist.

Amania Sheikh

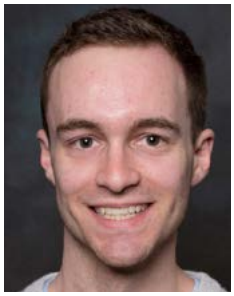
I am a postdoctoral research fellow at Walter Eliza Hall Institute of Medical Research in the laboratory of Dr. Joanna Groom. I have completed my postgraduate studies in Immunology at the University of Melbourne and WEHI under the enthusiastic supervision of Dr. Joanna Groom and Professor Gabrielle Belz in 2021. The primary focus of my Doctoral research was T follicular helper cells, a subset of CD4+ T cells, which specialize in promoting B cell differentiation into antibody-producing plasma and memory cells. I am very fortunate that my work on T follicular helper cells led to a first author publication in Cell Reports, 2019. My recent research interests are to investigate relatedness of CD4+ T effector cells to distinct memory populations as well as to ascertain the underlying transcriptional factors directing CD4+ T effector cells to adopt a heterogenous memory fate trajectory in viral infections. Addressing this question is of paramount importance to develop strategies aiming to promote CD4+ T memory formation during vaccination. Considering that we are enduring an unceasing global pandemic, I am thankful to have been awarded the ASI Career Advancement Award as it has extended my stay in my position for additional months as I embark upon a subsequent first author publication. Given the prevalent circumstances, this financial support has enabled me to persevere, gather resources and conduct a thorough introspection into my work, maximizing productivity. Therefore, I remain confident that this award would prove to be a stepping stone towards my future success in academic research career. ■

Alissa Robbins

I recently completed my PhD under the supervision of A/Prof Daniel Gray and Prof Andreas Strasser at the Walter and Eliza Hall Institute in Melbourne. Prior to this I earned my Bachelor of Medical Science (Hons) from the University of NSW where I completed my honours research investigating small molecule inhibitors for the treatment of paediatric acute lymphoblastic leukaemia in the lab of Prof Richard Lock at the Children's Cancer Institute. Following my undergraduate degree, I continued as a research assistant with Prof Lock then moved to Boston to work in Dr Julie Losman's lab at the Dana-Farber Cancer Institute before commencing my PhD in 2017.

My PhD research focussed on how different cell death pathways – such as intrinsic and extrinsic apoptosis and necroptosis – are implicated at different stages of T cell differentiation in the thymus and in peripheral T cell subsets. Understanding how these pathways are differentially regulated in the various T cell subsets affords us the opportunity to selectively target specific T cell populations in inflammation or disease.

I had originally planned to use the funds from this award to attend the ThymUS conference in Hawaii in 2020, however with borders now reopening, I am aiming to use the award to travel to an international conference next year and will also take the opportunity to visit laboratories overseas to progress my post-doctoral career. I am extremely grateful to ASI for this award and the opportunity it provides to present my research overseas and advance my career. I look forward to catching up with the ASI community at ASI2022 in Melbourne! ■



Daniel Fox

The Annual Meeting of the American Association of Immunologists (AAI) is an important international conference which covers my areas of interest, including innate immunity and infectious disease. I was originally awarded a postgraduate international travel award in 2019 to attend Immunology 2020 in May of last year, however unforeseen (or potentially, foreseen?) events resulted in the appropriate but unfortunate cancelation of the conference. As such, I was unable to present my work, but instead have decided to use this generous award from ASI for a much-needed tech upgrade instead. I am also thankful for ASI for allowing me to access this award to help with relocation allowances in the move to join my new lab at Monash as well.

My research area focuses on the activation of the canonical NLRP3 inflammasome, as well as the investigation of novel inflammasome complexes. Inflammasomes are innate intracellular immune signalling complexes that assemble in response to pathogen associated molecular patterns (PAMPs) or danger associated molecular patterns (DAMPs). Bacterial toxins are key virulence factors that represent a class of PAMPs which are potent activators of inflammasome sensors, leading to inflammation and cell death in the host. We and others have shown that toxins can induce activation of the NLRP3 inflammasome via a mechanism independent of entry to the host cell cytoplasm. These toxins include haemolysins of Staphylococcus aureus and E. coli, and haemolysin BL (HBL) of B. cereus. Of particular interest is that B. cereus isolates which lack HBL can cause inflammation and disease in humans, suggesting that other non-redundant virulence factors are critical in the pathogenesis of this pathogen. Our latest findings demonstrate that the non-haemolytic enterotoxin (NHE) from the clinically important human foodborne pathogen, B. cereus, is able to induce activation of the NLRP3 inflammasome and pyroptosis (Fig. 1). I found that the molecular mechanism underpinning activation of the inflammasome was dependent on the assembly of NHE into a functional pore on the host cell membrane, which drove the efflux of cytosolic potassium. My results revealed that enterotoxins from B. cereus are targeted by the inflammasome to initiate inflammation and cell death in the host. This host strategy offers a single pathogen sensor the flexibility to mediate the recognition of functionally conserved toxins, often produced by phylogenetically diverse bacterial species or even within different strains of a single bacterial species.

> Currently, my future research plans include investigations into the identification of novel surface receptors for B. cereus toxins, the identification of the direct molecular triggers for toxin-induced NLRP3 activation, and whether pharmacological inhibition of these receptors or triggers is of potential therapeutic value during B. cereus infection.

Whilst B. cereus causes gastroenteritis, diarrhoeal disease and emesis in immune competent individuals, of concern is the potential for B. cereus to cause often-fatal extra-gastrointestinal disease in immune-compromised patients. This can include but is not limited to systemic bacterial septicaemia, ocular infections, anthrax-like pneumonia, cutaneous gas-gangrene-like infections, and infections of the central nervous system. Importantly, case reports from outbreaks in Europe and the US has led to the identification that pathology seen in these patients is driven by the production of the enterotoxins, haemolysin BL and nonhaemolytic enterotoxin, at local or systemic sites of infection. My novel findings are therefore important as it describes for the first time, the detection of a key virulence factor from a neglected human foodborne pathogen that drives gastrointestinal pathology, by the innate immune system. It is this work that I had hoped to present at Immunology 2020. Currently, my future research plans include investigations into the identification of novel surface receptors for B. cereus toxins, the identification of the direct molecular triggers for toxin-induced NLRP3 activation, and whether pharmacological inhibition of these receptors or triggers is of potential therapeutic value during B. cereus infection. ■

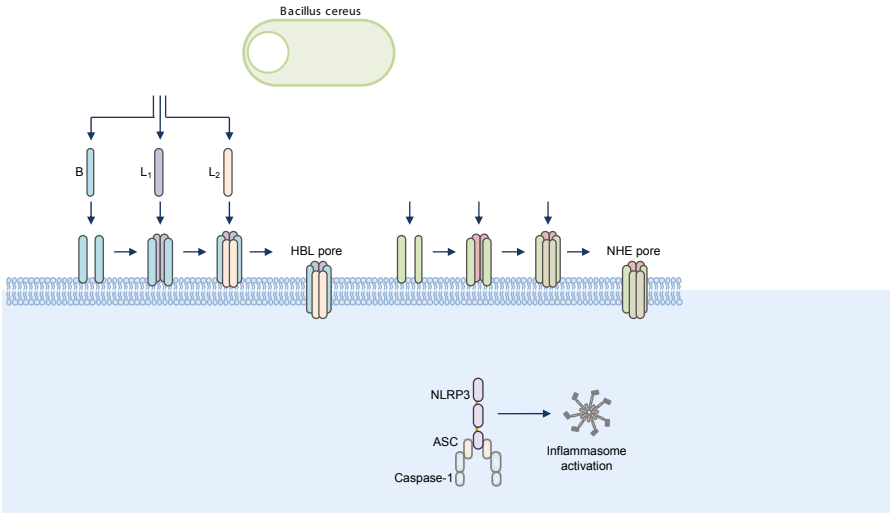


FIG. 1: MODEL OF B. CEREUS-INDUCED ACTIVATION OF THE NLRP3 INFLAMMASOME

Laura Cook

Hi, I'm Laura Cook, and I am writing this article from Melbourne thanks to an ASI Career Development Grant that helped me return home in October 2020 to my new role as a Senior Research Officer in Jose Villadangos' Laboratory in the Department of Microbiology and Immunology, the University of Melbourne at the Peter Doherty Institute for Infection and Immunity.

I was thrilled to be awarded an ASI Postdoctoral Travel Award in 2020 for planned collaborator visits and conference attendance in Europe. Although the pandemic necessitated cancellation of these plans, ASI converted my award into a Career Development Grant that has greatly assisted with my international relocation, setting up a home office and attending online conferences and professional development events.

> My return to Australia had some interesting challenges. I was enjoying a pre-departure vacation to Canada's Yukon territory, when a loose rock on a hiking trail resulted in a fractured ankle (and a helicopter deployed search and rescue team!).

My return to Australia had some interesting challenges. I was enjoying a pre-departure vacation to Canada's Yukon territory, when a loose rock on a hiking trail resulted in a fractured ankle (and a helicopter deployed search and rescue team!). The daily limits on numbers of arriving passengers into Australia then caused flight delays,

> 2021 highlights including attending a mighty Geelong Cats game at Kardinia Park, family reunions and taking my niece to Scienceworks. I have also been able to continue my service in the Australian Army Reserve, where I am a Captain in the Royal Australian Engineers (yes, I am Captain Cook!).

although this did give me enough recovery time to be off crutches for my rescheduled flight. One positive outcome from a relocation during a pandemic was that, due to the Melbourne lockdown moving everything online, I could begin attending lab meetings, institute seminars and online events 6 months prior to arriving. This made for a smooth transition and helped me to reconnect with the ASI community.

I am loving being back in Victoria, with 2021 highlights including attending a mighty Geelong Cats game at Kardinia Park, family reunions and taking my niece to Scienceworks. I have also been able to continue my service in the Australian Army Reserve, where I am a Captain in the Royal Australian Engineers (yes, I am Captain Cook!). In June 2021 I was deployed as part of OPERATION COVID-19 ASSIST where I helped co-ordinate the ADF support to the Victorian Department of Health and Human Services. Then, following the devastating June storms, I was redeployed with the engineer-led task force in support of Emergency Management Victoria and state emergency services conducting recovery and relief efforts.

I am now forging ahead with support from an NHMRC Emerging Leadership Grant for my research on human regulatory T cells (Tregs). Tregs have critical roles in maintaining self-tolerance and limiting immunopathology, and my research will explore how they influence formation of anti-viral memory responses, a concept with clear implications for vaccine design. I am also investigating mechanisms of impaired immune responses in critically ill patients with collaborators at the Royal Melbourne Hospital ICU. This study has a focus on phagocytic myeloid cells, which is expanding both the lab flow cytometry mAb repertoire and my knowledge of CD numbers.

I remain incredibly grateful to ASI for the Career Development Grant, which has been an enormous relief, both financial and emotional, during a more expensive than usual relocation. Can't wait to see you all at in-person events again soon. ■

> I am now forging ahead with support from an NHMRC Emerging Leadership Grant for my research on human regulatory T cells (Tregs).

Updates from Immunology & Cell Biology

Anne La Flamme,
Editor-in-Chief, Immunology & Cell Biology

As 2021 starts to wind down, we can look back on a very successful year for *Immunology & Cell Biology (ICB*). I am proud of the collection of articles (original research, reviews, commentaries) that was published this year in ICB and wish to thank our authors for choosing ICB for their publications. Our exciting content includes our three Special Features on

- Omics in Immunology (here)
- 100 years since the discovery of insulin (here)
- Neuroimmune interactions at the crossroads of health and disease (here)

as well as our Virtual Issues on

- Trailblazing women immunologists of Australia and New Zealand (here)
- World Diabetes Day: Joint Virtual Issue with Clinical & Experimental Immunology (here)

My thanks go to Fabio Luciani & Sam Hudson; Stuart Mannering; Scott Mueller & Erica Sloan; Jess Borger, Catriona Nguyen-Robertson & James Harris, and Ian Parish, Jess Borger & Catriona Nguyen-Robertson, respectively for coordinating these collections.

In addition to these fascinating collections, ICB has had a very active year, which I will cover in this update.

EDITORIAL TEAM

Editor-in-Chief

I am delighted to announce that Prof Adrian Liston has graciously accepted the position of Editor-in-Chief (EIC) for ICB. Adrian will begin on 1 January 2022 as a Deputy Editor, and on 1 January 2023, he will take over as EIC. Many of you will know Adrian as he has been hugely involved in both ICB and Clinical & Translational Immunology as well as being an active member of ASI. For those of you who may not know Adrian, below is a short biosketch to give you a first glimpse of his background, research expertise, and achievements. I look forward to working with Adrian and seeing how he shapes the future of ICB.

I am delighted to announce that Prof Adrian Liston has graciously accepted the position of Editor-in-Chief (EIC) for ICB. Adrian will begin on 1 January 2022 as a Deputy Editor, and on 1 January 2023, he will take over as EIC.

Prof Adrian Liston received his BSc (Hons) in biomedical sciences from Adelaide University, followed by a PhD in immunogenetics at the Australian National University studying T cell tolerance. After his doctoral studies, Liston worked on regulatory T cell biology at the University of Washington, prior to starting up his independent research program at the VIB and University of Leuven, in Belgium. Liston lab research takes a broad perspective in understanding immune regulatory processes, from fundamental to clinical immunology, across homeostasis and disease. Areas of research focus are currently neuroimmunology, regulatory T cell biology, primary immunodeficiency and systems immunology. Liston is currently senior group leader at the Babraham Institute, senior research fellow at Churchill College, University of Cambridge, professor of immunology at the University of Leuven and Fellow of the Academy of Medical Sciences. Beyond his research interests, Liston writes extensively on science careers and develops books and computer games to help children understand immunology.

Deputy Editors

Early in 2021, Justine Mintern stepped down as Deputy Editor, and I would like to acknowledge her immense efforts to raise the impact and profile of ICB while maintaining the high quality of the research published. Thank you, Justine, for your dedication, your wealth of good ideas, and your valuable insight.

On 1 May 2021, we appointed three new Deputy Editors, with the intention of expanding our international reach. To that end, I am very pleased to introduce our new Deputy Editors:

- A/Prof Fabio Luciani, University of New South Wales
- Dr Michelle Linterman, Babraham Institute, UK
- A/Prof Jonathan Coquet, Karolinska Institute, Sweden

AWARDS

2020 ICB Publication of the year:

I congratulate our winners of the ICB Publication prizes. For more details on these prizes and the winners, please read the editorial in the October issue of ICB (here) and the original articles.

Chris and Bhama Parish ICB Publication of the Year Award: **Ronan Kapetanovic and Syeda Farhana Afroz** "Lipopolysaccharide promotes Drp1-dependent mitochondrial fission and associated inflammatory responses in macrophages" imcb.12363Thermo Fisher Scientific Publication Award: Timothy Patton "Daptomycin resistant Staphylococcus aureus clinical isolates are poorly sensed by dendritic cells" imcb.12295

RONAN KAPETANOVIC

SYEDA FARHANA AFROZ

TIMOTHY PATTON

Annual Top 10 research articles

Earlier this year, Immunology & Cell Biology published a Virtual Issue celebrating the top 10 research articles published between July 2019 and June 2020 (here). We have just selected our top 10 research articles from July 2020 to June 2021 and will showcase them in a new virtual issue in January 2022. While you will need to wait until January 2021 for the full list of our top 10, I am pleased to announce the following research articles, which will be presented in the Best of ICB and CTI Session during the 2021 Annual Scientific Meeting (10:30 am on Wednesday, 8 December 2021).

Amanda Patchett "Mesenchymal plasticity of devil facial tumour cells during in vivo vaccine and immunotherapy trials" imcb.12451

Camille Guillerey "Systemic administration of IL-33 induces a population of circulating KLRG1hi type 2 innate lymphoid cells and inhibits type 1 innate immunity against multiple myeloma" imcb.12390

Rehana Hewavisenti "Tissue-resident regulatory T cells accumulate at human *barrier lymphoid organs*" imcb.12481

MEASURES OF IMPACT

Last year, I detailed the many measures that can be used to assess a journal's impact and performance. This year *ICB* received its highest Impact Factor ever, and so I thought I would recap the key measure descriptions and reveal the 2020 values.

Clarivate's Web of Science:

- Impact Factor (IF) - The Journal IF is a measure of the frequency with which the "average article" in a journal has been cited in a particular year or period. This measure is by far the most popular one used, but because of the narrow period of measure, can fluctuate significantly especially for smaller journals like *ICB*. The IF is calculated by dividing the number of current year citations to the source items published in that journal during the previous two years. The IF calculation also only counts citations for a narrow type of sources.
- Journal ranking – Using the IF, journals will be ranked within a specific field. Because reviews commonly receive more citations than primary research articles, journals that specialise in publishing only reviews often have high IF and are highly ranked. This ranking is useful when looking at journals of a similar standard although it is important to note that each journal will have its own unique personality.

> We have just selected our top 10 research articles from July 2020 to June 2021 and will showcase them in a new virtual issue in January 2022

Elsevier's Scopus: This system is less used than Clarivate's IF although some measures are gaining traction. Some of the key assessment measures in Scopus are CiteScore, journal ranking, and % of citations.

- CiteScore – Like IF, this measure is a ratio between citations and eligible articles. However, this measure captures citation from eligible articles over a four-year period. Additionally, it captures citations from a wider range of sources including books and conference papers. Because of the longer period to capture citations and articles, this score tends to be more stable. It also reflects a more sustained level of citation.
- Journal ranking – Scopus will rank journals in each field by their CiteScore. How each field of research is divided is different from Clarivate's Web of Science and so ranking will be different.
- % of citations – This measure evaluates the % of articles that were cited. It is often a good measure of how visible the journal content is such that it is more likely to be cited.

TRANSITIONAL AGREEMENTS

Wiley just announced their latest transitional deal – a 3-year partnership with the Council of Australian University Librarians (CAUL). This deal will enable eligible researchers in Australia and New Zealand the opportunity to publish open access (OA) in all of Wiley's hybrid journals at no direct cost to them. This agreement begins on 1 January 2022 and is the largest and most inclusive agreement in Australasia to date.

What does this mean to you?

In short, authors will not be asked to pay Article Publication Charges (APCs) because the fees for OA publishing are covered by the total amount paid by CAUL each year. Of note, the agreement has a fixed article entitlement for hybrid OA publishing, which means that eligible authors can publish up to a maximum number of articles as part of the hybrid article entitlement, which is expected to cover CAUL's current level of hybrid output. The hope and belief are that OA coverage, based on CAUL's current output, will cover 100% of the eligible articles.

Impact measure	ICB 2020	ICB 2019	Comments
Impact factor	5.126	3.745	Looking over the past few years, ICB has fluctuated around an IF of 4 so this year's IF is an incredible achievement.
% Self-citation	3.86	4.36%	This number is below the average for other society journals, but a high % self-citation rate is not looked upon favorably.
CiteScore	8.7	7.6	ICB has done well in the CiteScore compared to other society journals such as *Frontiers in Immunology* (8.1).
Journal ranking	#35/182	#37/180	In the field of Immunology and Allergy with *Journal of Immunology* ranked at 34/182.
% Cited	89%	87%	ICB has one of the best % Cited of the society journals such as *Journal of Immunology* (84%) and *Frontiers in Immunology* (78%).

What does this mean to ICB*?*

This agreement means that our local authors in Australia and New Zealand can enjoy the merits of OA publishing and meet the obligations of funding bodies, which require OA publishing of research findings. Due to other transitional agreements that Wiley has in place with a variety of international organizations (**here**), this mechanism supporting greater open access is already in place.

PLANNING FOR 2022

Looking ahead to 2022, *ICB* will have another busy year as we finalise our plans for our 100-year celebrations, which will occur over 2023. Yes, Issue 1, Volume 1 of the *Australian Journal of Experimental Biology and Medical Science* (i.e. ICB) was published on 1 March 1924. Interested in having a peek? (here)

> The IF is calculated by dividing the number of current year citations to the source items published in that journal during the previous two years. The IF calculation also only counts citations for a narrow type of sources.

Finally, I wish to thank the whole ICB Editorial Team and Editorial Office for their unstinting dedication and enthusiasm; they have made this year a success for ICB. Additionally, we rely heavily on our experienced Editorial Board as well as ASI and Tyani Chan, particular. Thank you all for your outstanding work during 2021. ■

> Finally, I wish to thank the whole ICB Editorial Team and Editorial Office for their unstinting dedication and enthusiasm; they have made this year a success for ICB.

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News From FIMSA

Joanna Groom
FIMSA Representative
groom@wehi.edu.au

FIMSA currently includes 11 immunological societies in our region: Australia & New Zealand; China; Hong Kong, China; India; Iran; Thailand; Sri Lanka; Taiwan; Singapore; China; Japan; Korea.

The 2021 FIMSA council meeting was held on 1st November. The online format allowed all executive and regional councilors to attend. In this meeting new roles on FIMSA executive council were elected and new terms of reference policies were implemented.

2022 FIMSA Executive Council

President: Sunil Arora (India)

Vice President: Osamu Takeuchi (**Japan**)

Secretary General: Bo Huang (**China**)

Treasurer: Kiyoshi Takeda (**Japan**)

Past President: Laura Mackay (**Australia**)

Incoming President Sunil Arora pledged to carry forward FIMSA hybrid. Prof Arora will also seek to expand FIMSA representation in the region, looking to form ties with Malaysia, Indonesia, Pakistan and Bangladesh Immunological societies.

Councilors from each region shared updates from their home societies, and detailed struggles and key learnings from the pandemic. While most have moved to online conferences, some were able to organise in-person meetings this year.

Success of Women Speaker Database

In 2019 FIMSA established an Women's Speaker Database for members of FIMSA societies, to raise the profile of women Immunologists. This has been used as a key source for Speaker invites to FIMSA conferences.

If you would like to be added to the database, please refer to the guide http://fimsa.org/class/31 and send me your application.

New ASI representative for FIMSA Council

Professor Di Yu has been nominated by ASI members to take over this role. Di is an outstanding immunologist at The University of Queensland Diamantina Institute (https://di.uq.edu.au/profile/3319/di-yu). Di is sure to be a committed and insightful member of the FIMSA council in coming years. ■

FIMSA events

- The 8th Congress was held 31st October to 3rd November 2021(FIMSA2021.org). This was a hybrid event hosted by Korean Association of Immunologists (KAI). The congress had 1000 participants representing 30 countries. FIMSA awarded 5 ASI members registration awards, and ASI awarded 15 members registration awards (all who applied). Plenary speakers were Tomohiro Kurosaki (Japan), Chen Dong (China) and Carola Vinuesa (Australia). Other invited ASI members include Oanh Nguyen, Charis Teh, Di Yu, Cindy Ma, Kim Jacobson and Kanta Subbarao.
- The 9th FIMSA Congress will be hosted by Taiwan. This will be held October 24-27, 2024 in Taipei.
- FIMSA is currently considering bids for the 10th FIMSA Congress for 2027 from India and China.
- The 2021 Advanced Course was postponed by Japan and instead was hosted online by the Indian Immunology Society. FIMSA is still looking for bids from host countries for the 2022 FIMSA Advanced Course. The 2023 Advanced Course will be hosted by Japan.

The IUIS corner

J. Alejandro Lopez
alejandro.lopez@qimrberghofer.edu.au

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

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

And/or Facebook: www.facebook.com/IUISorg/

Changing the Guard

This is my last contribution to the IUIS corner as ASI representative to the IUIS Council. After two consecutive terms, it is now the time to past on the baton. Joanne Reed (Garvan Institute) will now take the role and I am certain she will continue to provide a strong liaison between the ASI members and the IUIS Council. Best of luck to Joanne on her new role.

It has been a privilege to serve the ASI in this role for the last 6 years. The last couple of years, which seem longer than 6, have witness such an array of major changes in our discipline and the way we conduct our activities that it has been a very educational and motivating time. This role allowed me better to understand how immunology is viewed, conducted and cherished across the globe and confirmed the perception that we, at the ASI, punch way above our weight in terms of our presence and contribution to the discipline. As an ASI member now, I will continue my role within IUIS committees and do encourage everyone to look at the multiple opportunities to learn that are available through those engagements. Certainly, a very enriching and positive experience.

I would like to thank the various ASI Councils through the years for the support they have provided to this role. Also, the assiduous readers of the newsletter who sent queries or comments about IUIS were a great motivation and confirmation of the usefulness of this role. A strong and healthy interaction with the IUIS will rebound always in significant benefits for the ASI membership.

Menarini Prize for Outstanding Woman Immunologist (change of deadline)

On the occasion of the Day of Immunology on April 29, IUIS and its Gender Equality Committee (GEC) proudly announced the "Menarini Prize for Outstanding Woman Immunologist" established thanks to the forward-looking vision and generous support of the Menarini Group.

The USD 40,000 prize will be awarded for the first time at the 18th International Congress of Immunology (IUIS 2023) in Cape Town, South Africa and at future IUIS congresses thereafter. This award is the first and only IUIS prize that specifically recognizes women immunologists and their outstanding research accomplishments. Rules for nominations and selection of awardees are described below. The IUIS Gender Equality Committee (GEC) has formed a *Nomination Committee* (NC) composed of 101 outstanding immunologists. The IUIS commitment to equality and diversity across the divides of race, age, national origin or social status is reflected to the extent possible in the composition of the NC. Each member of the NC is responsible for collecting one nomination consisting of the following:

- A nomination letter
- CV of the nominee
- List of up to ten publications
- One page summary of the nominee's research accomplishments

> The new Covid19-forced style of interactions have yielded more efficient meetings with faster deliberations and better tangible outcomes.

Female members of the NC may self-nominate, in which case they must submit two letters of support for their nomination from two other members of the Nomination Committee. The Selection Committee (SC) composed of 12 outstanding immunologists, including the Past Chair of the GEC Committee, is formed for a three-year term (current term is 2020-2023). Members of the SC are collectively responsible for selecting three candidates from the nominations received. The GEC Committee and the IUIS President will identify the winner from the shortlist.

The deadline for submission of the nominations has now been postponed is January 1, 2023, due to the change of the date of the 18th International Congress of Immunology to December 2023.

The nomination should be sent to info@iuis.org and paola.castagnoli@gmail.com.

The list of the Nomination Committee members of the Menarini Prize for Outstanding Woman Immunologist is published on the IUIS website / GEC Committee.

IUIS 71st Council meeting

On November 20th the IUIS Council would have had its second online meeting. The new Covid19-forced style of interactions have yielded more efficient meetings with faster deliberations and better tangible outcomes. Amongst the critical discussions and decisions to be had are the approval of modifications to the statutory constitution of IUIS to facilitate online discussion and voting by the and how to conduct elections. For the first time, the election of Council members will take place online and this implies significant changes in the Guidelines and Policies. Our own Roslyn Kemp, IUIS General Secretary has been very busy at this job of bringing IUIS to the Covid19 era. She has done an outstanding job at the helm of the IUIS Secretary. Other important items on the agenda include the updates on the preparation for IUIS Congresses in 2023 (Cape Town) and 2025 (Vienna). This meeting will also commence the process of selection of the shortlisted candidates to host IUIS 2028. At the time of writing this report, the Council meeting had not taken place.

IUIS 2028

IUIS has now initiated the process of choosing the hosting city for the triennial IUIS Congress in 2028. The IUIS has appointed K.I.T. Group as its official core Professional Conference Organiser (core PCO) and association management company (AMC). IUIS and its appointed PCO-AMC are responsible for the Congress budget. The IUIS core PCO manages the majority of the logistical and financial arrangements on behalf of IUIS.

These are the cities that have hosted the International Congress of Immunology (ICI) or the now named IUIS triennial congress.

- Budapest 1992
- San Francisco 1995
- New Delhi 1998
- Stockholm 2001
- Montreal 2004
- Rio de Janeiro 2007
- Kobe 2010
- Milan 2013
- Melbourne 2016
- Beijing 2019
- Cape Town 2022 (postponed until 2023)
- Vienna 2025

From IUIS 2023, we enter into a new phase of the Congress in that it will have a hybrid format, allowing for the participation of both delegates on-site and on-line. The new oncoming Congresses are likely to have an innovative structure that will lead to a wider participation, in particular from members with less solid financial capacity. This change is very much in line with a more inclusive, and fair access to the IUIS activities that the Council has adopted in the latest years.

> Given the very positive outcomes the ASI achieved with ICI 2016 in Melbourne, it was decided to participate in the IUIS 2028 bid and the hosting city will be Brisbane.

The Congress that usually welcomes between 4000 and 7000 delegates, is likely to be transformed into a much larger event, when the online participants are included.

Given the very positive outcomes the ASI achieved with ICI 2016 in Melbourne, it was decided to participate in the IUIS 2028 bid and the hosting city will be Brisbane. While it might be considered

that having hosted ICI 2016 in Australia was only recently, it is likely a good idea to make the IUIS Council aware of our intentions of hosting the Congress again down-under. The timeline for the decision on the bid is as follows:

Stage 1. Deadline for submission of Letter of interest - 10 November 2021

Stage 2. IUIS Council shortlists a small number of cities - 20 November 2021 (likely to be a maximum of three)

Stage 3. Submission of Full Bid - 30 April 2022

Stage 4. IUIS Council decides on IUIS 2028 host city and decision August 2022 is ratified by the General Assembly,

The bid for the Brisbane IUIS2028 was put together by members of the ASI (Antje Blumenthal, Emma Hamilton-Williams, Gabrielle Belz, Di Yu, Danielle Stanisic, Severine and myself) with the support of the ASI executive and the close collaboration with the Brisbane Convention and Exhibition Centre. The scientific vision of the bid was formulated along the lines of the ASI and IUIS Council current directives.

Our scientific vision for IUIS 2028, 'Immunology at the heart of global health" is designed to create the opportunity to highlight the centrality of immunology to major global health challenges including, but not limited to diagnosis, prevention, and treatment of infectious diseases, cancer, chronic disease and metabolic disorders. It aligns with the mission of the World Health Organisation (WHO) and other major international organisations. We envisage IUIS 2028 as a platform for basic and clinical scientists, industry professionals, policy makers, and the wider public to engage with the latest developments in immunology. Our vision will be supported through our three core pillars:

- **Education** – training the next generation of immunologists through associated workshops and courses, content legacy via Immunopaedia, broad engagement and accessibility for the general public broadly via media engagement and free public lectures
- **Equity and inclusion** – strong commitment to minimizing access hurdles and enable broad participation and engagement. This will occur via wide access opportunities to attend, present and discuss including hybrid delivery and a tiered fee structure based on country of origin, travel support program, low costs for students and child-care support
- **Networking** - opportunities for everyone to connect via in person/virtual attendance, a strong social program, linkage with satellite meetings

Useful links

Immunopaedia: https://www.immunopaedia.org.za/

Committee Activities: https://iuis.org/committees/

IUIS events: https://iuis.org/events/ ■

IUIS 2023 CAPE TOWN

18th International Congress of Immunology

27 Nov-2 Dec 2023 | Cape Town, South Africa

More information https://iuis2023.org/

Publications of Interest

Our Sustaining Members

Millennium Science

Visium Spatial Gene Expression - www.10xgenomics.com/products/spatial-gene-expression
Bäckdahl et al. 2021. Spatial mapping reveals human adipocyte subpopulations with distinct sensitivities to insulin
Cell Metabolism
DOI: 10.1016/j.cmet.2021.07.018

G418 (Geneticin) - www.invivogen.com/g418
Ulferts et al. 2021. Subtractive CRISPR screen identifies the ATG16L1/vacuolar ATPase axis as required for non-canonical LC3 lipidation
Cell Reports
DOI: 10.1016/j.celrep.2021.109899

Normocin (antimicrobial) - www.invivogen.com/normocin
Yang et al. 2021. Tetrasubstituted imidazoles as incognito Toll-like receptor 8 a(nta)gonists
Nature Communications
DOI: 10.1038/s41467-021-24536-4

Genscript:

Protein Analysis & Purification (https://www.genscript.com/Protein_Products.html)
Su et al., (2021) DNA Polymerase Iota Promotes Esophageal Squamous Cell Carcinoma Proliferation Through Erk-OGT-Induced G6PD Overactivation. Frontiers in Oncology, 11.
Doi: 10.3389/fonc.2021.706337

Mammalian Expression (https://www.genscript.com/mammalian-expression.html)
Knudsen et al., (2021) Evaluation of Benzylpenicillin as an Internal Standard for Measurement of Piperacillin Bone Concentrations Via Microdialysis. Journal of Pharmaceutical Sciences, 110(10), pp.3500-3506.
Doi: 10.1016/j.xphs.2021.06.008

Serology SARS-CoV-2 Detection Kit (https://www.genscript.com/covid-19-services-and-products.html)
Hong et al., (2021) Epigallocatechin Gallate Inhibits the Uridylate-Specific Endoribonuclease Nsp15 and Efficiently Neutralizes the SARS-CoV-2 Strain. Journal of Agricultural and Food Chemistry, 69(21), pp.5948-5954.
Doi: 10.1021/acs.jafc.1c02050

BD Rhapsody™ customised T cell Targeted Panel (Human) and BD® AbSeq 70-plex (IFNγ-producing CD8+ tissue resident memory T cells are a targetable hallmark of immune checkpoint inhibitor-colitis)
Sasson et al. (2021). IFNγ-producing CD8+ tissue resident memory T cells are a targetable hallmark of immune checkpoint inhibitor-colitis. Gastroenterology. doi: 10.1053/j.gastro.2021.06.025

BD Rhapsody™ T cell Targeted Panel (Human) and BD® AbSeq 18-plex (Bifidobacteria-mediated immune system imprinting early in life)
Henrick et al. (2021) Bifidobacteria-mediated immune system imprinting early in life. Cell. doi: 10.1016/j.cell.2021.05.030

BD Rhapsody™ WTA Amplification (Nasal ciliated cells are primary targets for SARS-CoV-2 replication in early stage of COVID-19)
Ahn et al. (2021). Nasal ciliated cells are primary targets for SARS-CoV-2 replication in early stage of COVID-19. The Journal of Clinical Investigation. doi: 10.1172/JCI148517

2'3'-cGAMP ELISA Kit (https://www.caymanchem.com/product/501700/2'3'-cgamp-elisa-kit) Sun et al. (2021). A Nuclear Export Signal Is Required for cGAS to Sense Cytosolic DNA. Cell Reports. doi: 10.1016/j.celrep.2020.108586

Citrullinated Histone H3 (Clone 11D3) ELISA Kit (https://www.caymanchem.com/product/501620/citrullinated-histone-h3-(clone-11d3)-elisa-kit) Lien et al. (2021). Dengue Virus Envelope Protein Domain III Induces Nlrp3 Inflammasome-Dependent NETosis-Mediated Inflammation in Mice. Frontiers in Immunology. doi: 10.3389/fimmu.2021.618577

Prostaglandin E2 ELISA Kit – Monoclonal (https://www.caymanchem.com/product/514010/prostaglandin-e2-elisa-kit---monoclonal)
McDougal et al. (2021). Phagocytes produce prostaglandin E2 in response to cytosolic Listeria monocytogenes. PLOS Pathogens. doi: 10.1371/journal.ppat.1009493

goGermlineTM (https://www.ozgene.com/gogermline-knockout-and-knock-in-mice/)
Lam et al., (2021). Synthesis of human amyloid restricted to liver results in Alzheimer disease-like neurodegenerative phenotype. PLos Biol.
DOI: 10.1371/journal.pbio.3001358

Knockout mouse model (https://www.ozgene.com/services/knockout-mice/
Zafar et al., (2021). BHLHE40 promotes macrophage pro-inflammatory gene expression and functions. FASEB J.
DOI: 10.1096/fj.202100944R

Knock-in mouse model (https://www.ozgene.com/services/knock-in-mice/)
Kadgien et al., (2021). Endosomal traffic and glutamate synapse activity are increased in VPS35 D620N mutant knock-in mouse neurons, and resistant to LRRK2 kinase inhibition. Mol.Brain.
DOI: 10.1186/s13041-021-00848-w

The aim of the ASI is to encourage and support the discipline of immunology in the Australia and New Zealand region.

The Australian and New Zealand 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. The aim of the Society is to encourage and support the discipline of immunology in the Australasian region.

It is a broadly based Society, embracing clinical and experimental, cellular and molecular immunology in humans and animals. The ASI provides a network for the exchange of information and for collaboration within Australia, New Zealand and overseas. ASI members have been prominent in advancing biological and medical research worldwide. We seek to encourage the study of immunology in Australia and New Zealand and are active in introducing young scientists to the discipline.

ASI Member Benefits include:

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

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