



EMCR*Times*

**EARLY & MID CAREER
RESEARCHERS
eNEWSLETTER**

Issue 26

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EMCR webpage

Check out the webpage at:

<http://www.med.monash.edu.au/cecs/ecr>

EMCR Facebook page

AMREP EMCRs now have a Facebook page. The page was designed as a means of information exchange and networking with fellow EMCRs. Please follow at:

<https://www.facebook.com/AmrepEcrrs>

EMCR PhD student profiles:

<http://www.med.monash.edu/cecs/education/profiles/index.html>

EMCR Google+ page

<https://plus.google.com/u/0/b/112534742011900003005/112534742011900003005/posts>

ABOUT EMCRTIMES

EMCRTIMES is prepared by Dr Eric Chow



Welcome New EMCR Committee Members

We would like to welcome Dr Jessica Borger joining AMREP EMCR Committee.

Dr Jessica Borger

Position: Postdoctoral Research Scientist

Department: Department of Immunology and Pathology, Monash University, Central Clinical School

Research: I am a T cell immunologist and postdoctoral research scientist in the Leukocyte Signaling Laboratory of A/P Margaret Hibbs in the Department of Immunology and Pathology at Monash University. Prior to joining the Central Clinical School in mid-2016 I had spent 10 years overseas initially completing a prestigious Medical Research Council PhD scholarship at the National Institute of Medical Research awarded through University College London. Here my interests were founded in T cell signaling and addressing the early T cell receptor signaling pathways that direct T cell development and function. I continued working on T cell signaling and memory generation, addressing the impact of integrin signaling and membrane dynamics on T cell activation and cellular homeostasis in my MRC postdoctoral fellowship at the University of Edinburgh, Scotland. Since returning to Australia in 2016 my research focus has developed to involve interrogating gamma delta T cell development, activation and function as potential targets of therapeutic intervention of lung disorders at Monash University with A/P Margaret Hibbs. I also support open and transparent peer review processes by working as an Associate Faculty Member for F1000Prime, providing recommendations on peer-reviewed articles, in collaboration with Prof Art Weiss (University of San Francisco).



Farewell to EMCR Committee Members

The AMREP EMCR Committee is sad to see a number of members stepping down from the committee in 2017. Here are their reflections during their time on the committee.

Dr Karen Alt (ACBD, CCS, Monash University)

I joined the AMREP EMCR committee in 2015 to have the opportunity to represent the interests of early and mid-career researcher at AMREP. I was involved in the AMREP EMCR Conference in 2016 and AMREP EMCR retreat in 2017 committee. The committee works very hard to bring events and opportunities to the AMREP EMCR community. The team is fantastic to work with; everyone is professional and works tirelessly to ensure the best outcome. Being part of the community has been an incredibly enjoyable experience and I would strongly encourage other early to mid-career research to be involved with this dynamic team who promotes the interests of early-mid career researchers. Many thanks to the committee for an amazing time.



Dr Nupur Nag (SPHPM, Monash University)

I joined the AMREP EMCR Committee in 2014 to connect with fellow AMREP EMCR researchers and learn about the diversity of research undertaken in this precinct. The Committee hosts conferences, workshops, mentoring programs, and funding schemes, contributing to the professional development of EMCR researchers. I encourage all EMCR to participate in the activities. Since joining, I have served as a member of the Collaborative Seed Grant Committee, where annually, applications are reviewed and two selected to receive seed funding to support their novel and collaborative pilot study. This has been a fantastic opportunity to meet and work with great teams and enhance skills in critically reviewing research proposals from a diversity of basic science and public health fields. I wish the Committee well as they continue to grow.



2017 EMCR Best Paper Award Winners

Since 2015, the EMCR Committee has developed the EMCR Best Paper Awards to honour the outstanding early and mid-career researchers who have published in the area of Biomedical Research, Clinical Research, and Public Health. Thank you to all of you for submitting your papers to the 2017 AMREP EMCR Best Paper Awards. The competition was fierce this year and the judging very tight. All winners will receive \$500 to support their research career. Congratulations to all winners.

Clinical Research Early-Career Researcher Best Paper Award Winner

Not awarded this year.

Clinical Research Mid-Career Researcher Best Paper Award Winner

A/Prof Carol Hodgson

School of Public Health and Preventive Medicine, Monash University

Paper Title: A Binational Multicenter Pilot Feasibility Randomized Controlled Trial of Early Goal-Directed Mobilization in the ICU

Journal: Critical Care Medicine

Lay summary:

Patients in the intensive care unit (ICU) traditionally receive bed rest as part of their care. They develop muscle weakness even after only a few days of mechanical ventilation that may prolong their time in ICU and in hospital, delay functional recovery and delay their return home and to work. Weakness may be avoided with simple strategies of early exercise in ICU. The aims of this pilot study were to test the hypothesis that early mobilisation may improve functional recovery in this patient group and gather pilot data to support a larger randomised trial across Australia and New Zealand. We successfully delivered early mobilisation in the intervention group at a higher dosage and for a longer time. Early mobilisation resulted in reduced days in ICU and in hospital. The results of this study support funding for a large trial that tests patient outcomes.

Link to publication: <https://www.ncbi.nlm.nih.gov/pubmed/26968024>



Biomedical Research Early-Career Researcher Best Paper Award Winner

Dr Francine Marques

Baker Heart and Diabetes Institute

Paper Title: High-Fiber Diet and Acetate Supplementation Change the Gut Microbiota and Prevent the Development of Hypertension and Heart Failure in Hypertensive Mice

Journal: Circulation

Lay summary:

We showed that a diet rich in fibre modifies the composition of the microbes in our gut, increasing the prevalence of communities that release substances called short-chain fatty acids such as acetate as a consequence of fibre fermentation. We demonstrated that fibre and acetate prevent the development of high blood pressure, heart failure and stiffening of the heart in a mouse model.

Our study also described the molecular modifications in both the heart and the kidney with dietary intake of fibre or supplementation with acetate, and was the first to propose a gut-cardiorenal-axis and show that it impacts on cardiovascular health. It received significant attention from the scientific community and the public, and was featured at the Sydney Morning Herald (<http://www.smh.com.au/lifestyle/health-and-wellbeing/nutrition/is-more-fibre-a-recipe-for-better-blood-pressure-20161211-gt8ntu.html>) as a consequence. We also recorded a podcast for Circulation due to the interest it has received (<http://circulation.libsyn.com/podcast/circulation-march-7-2017-issue>).

Link to publication: <https://www.ncbi.nlm.nih.gov/pubmed/27927713>



Biomedical Research Mid-Career Researcher Best Paper Award Winner

Dr Bianca Bernardo

Baker Heart and Diabetes Institute

Paper Title: Sex differences in response to miRNA-34a therapy in mouse models of cardiac disease: Identification of sex-, disease- and treatment-regulated miRNAs

Journal: The Journal of Physiology

Lay summary:

Drugs that stop the action of disease-causing tiny genes (called microRNAs) are in development for heart disease. However, limited information is available on the regulation of specific microRNAs in male and female hearts in settings of heart disease. The identification of sex-specific microRNA signatures has implications for translation into the clinic and suggests the need for customised therapy. I was the first to show that a microRNA-based treatment inhibiting microRNA-34a provided more cardiac protection in female mice with dilated cardiomyopathy compared to male mice, and that the degree of protection is dependent on disease severity. Using a high throughput approach, I was able to identify sex- and treatment-dependent regulation of microRNAs in the diseased heart. This may explain the differential response of males and females to microRNA drug therapy. The results highlight the importance of understanding the effect of microRNA-based therapies in heart disease settings in males and females.

Link to publication: <https://www.ncbi.nlm.nih.gov/pubmed/27270487>



Public Health Research Early-Career Researcher Best Paper Award Winner

Dr Eric Chow

Melbourne Sexual Health Centre, Alfred Health
Central Clinical School, Monash University

Paper Title: Quadrivalent vaccine-targeted human papillomavirus genotypes in heterosexual men after the Australian female human papillomavirus vaccination programme: a retrospective observational study

Journal: Lancet Infectious Diseases

Lay summary:

This is the first study to demonstrate falls in vaccine-preventable human papillomavirus (HPV) genotypes (6/11/16/18) in largely unvaccinated heterosexual men as a result of herd protection from vaccinated women from the national HPV vaccination programme in Australia.

The study looked over 11 years; 3 years before and 8 years after the female HPV vaccination programme. For the first time, I showed the prevalence of the four vaccine-preventable HPV genotypes (6/11/16/18) dramatically reduced from 20% in 2004/05 to 3% in 2014/15 among Australian-born men, suggesting these men received herd protection from their female partners. Interestingly, we found a decline in HPV 16/18 but not in HPV 6/11 among overseas travellers who were from countries (e.g. UK) with a bivalent vaccine (16/18 only) programme, suggests these men receive benefits from herd protection for 16/18 from their vaccinated female partners in their own countries.

Link to publication: <https://www.ncbi.nlm.nih.gov/pubmed/27282422>



Public Health Research Mid-Career Researcher Best Paper Award Winner

A/Prof Yuming Guo

School of Public Health and Preventive Medicine, Monash University

Paper Title: Temperature Variability and Mortality: A Multi-Country Study

Journal: Environmental Health Perspectives

Lay summary:

We collected daily data for temperature and mortality from 372 locations in 12 countries/regions (Australia, Brazil, Canada, China, Japan, Moldova, South Korea, Spain, Taiwan, Thailand, the United Kingdom, and the United States). Two-stage analyses were used to assess the relationship between temperature variability (TV) and mortality. In the first stage, a Poisson regression model allowing over-dispersion was used to estimate the community-specific TV-mortality relationship, after controlling for potential confounders. In the second stage, a meta-analysis was used to pool the effect estimates within each country. We found that there was a significant association between TV and mortality in all countries. Mortality risks related to TV were higher in hot areas than in cold areas when using short TV exposures (0–1 days), whereas TV-related mortality risks were higher in moderate areas than in cold and hot areas when using longer TV exposures (0–7 days).

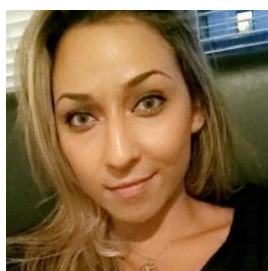
Link to publication: <https://www.ncbi.nlm.nih.gov/pubmed/27258598>



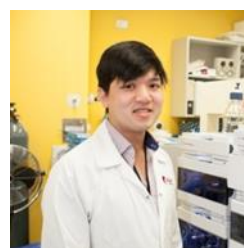
2017 EMCR Collaborative Seed Grants Winners

The Winners of the 2017 Collaborative Seed Grants Announced.

Congratulations to all involved! Two awards have been awarded. The winners will receive a total of \$3000 to support their research project.



Ms Aya Mousa
(Monash SPHPM)



Mr Kevin Huynh
(Baker IDI)

Project Title: “Plasma lipidomic signatures for risk prediction and prevention of gestational diabetes”

Summary: Gestational diabetes mellitus (GDM) is a common metabolic disorder affecting 15-20% of pregnancies. GDM increases the risk of pregnancy complications, type 2 diabetes, and cardiovascular diseases. Lipid dysregulation may play a role in GDM development; however, lipid metabolism in GDM has been poorly studied. Using novel lipidomics methods, we will simultaneously quantify hundreds of lipid species to obtain a better understanding of lipid metabolism in GDM. This work will provide new insights into relationships between lipid species and GDM risk and whether these lipid species could be altered with lifestyle intervention. Findings from this work will also inform future research to improve risk prediction and prevention of GDM.



Dr Jessica Borger
(Monash Dept. Immunology)



Dr Cedric Tremblay
(Monash ACBD)

Project Title: “Defining and targeting signalling pathways in $\gamma\delta$ T cells that drive mucus metaplasia and airways disease”

Summary: Airway diseases such as severe steroid-refractory asthma and chronic obstructive pulmonary disease (COPD) are an enormous worldwide burden and have a huge public health impact. Approved drugs for these two diseases provide symptomatic relief but they do not halt the disease process, and curative therapy remains elusive. We have discovered a possible cause of chronic bronchitis, which is one of the most common and difficult to treat airway disease characteristics, and using advanced techniques we are now probing for ways to turn this discovery into an effective treatment option.

2017 EMCR Retreat Chair Report

On behalf of the EMCR retreat organising sub-committee (Jess Anania, Karen Alt, Alicia Chenoweth, Caitlin Douglass, Shauna French, Megan Grace, Jay Jha, Mahtab Parvaresh, Kathleen Ryan) and my co-chair, Katharine Goodall, I would like to thank all of the attendees, invited speakers, sponsors (Central Clinical School, Australian Biosearch, Monash Postgraduate Association, Baker Institute, and Burnet Institute), our photographer Gerard Hynes, Eliza Watson from CCS communications, and all of the staff at CountryPlace for helping us make this year's AMREP biennial EMCR retreat so successful! It was incredibly satisfying (and a relief!) to see all of our hard work come to fruition over the two days that the retreat was conducted.



Our aim for this retreat was to conduct sessions that were highly relevant and of particular interest to EMCRs in 2017, with a focus on career development. We had invited speakers from across the AMREP precinct and Monash University Clayton campus, each with a unique story and different range of experiences, to provide us with insights into how to make the most of the formative stages of our research careers. Firstly, we would like to thank Dr Wade Moore and Dr Jennifer Steen from Monash Grants Office for providing us with the latest information regarding NHMRC grant and fellowship applications. Secondly, we would like to thank our invited panel members A/Prof David Anderson (Burnet Institute), Prof Karin Jandeleit-Dahm (Monash Diabetes), and Prof Dianna Magliano (Baker Institute) for sharing their views on what (and what not) to consider when submitting grant and fellowship applications.



(L-R): Prof Dianna Magliano, Prof Karin Jandeleit-Dahm, Dr Jennifer Steen, Dr Wade Moore, and A/Prof David Anderson

Thirdly, we would like to thank Dr Megan Lim (Burnet Institute), A/Prof Menno van Zelm (Monash Immunology) and Dr Sara Prickett (Aravax/AIRMed) for sharing stories and experiences regarding their career paths so far. Finally, a thank you to all of the representatives from AMREP service laboratories and facilities for taking the time to speak about how we can get the most out of research projects.



We also had some fantastic talks from our EMCRs who presented their own research, highlighting the diversity of exciting research being conducted at AMREP.

Congratulations to Dr Jessica Borger and Dr Danielle Horyniak for winning the best presentation prizes!



Dr Jessica Borger

Department of Immunology and Pathology, Monash

“Caveolin-1 is a novel T cell-derived exosome biomarker, influencing cholesterol homeostasis”

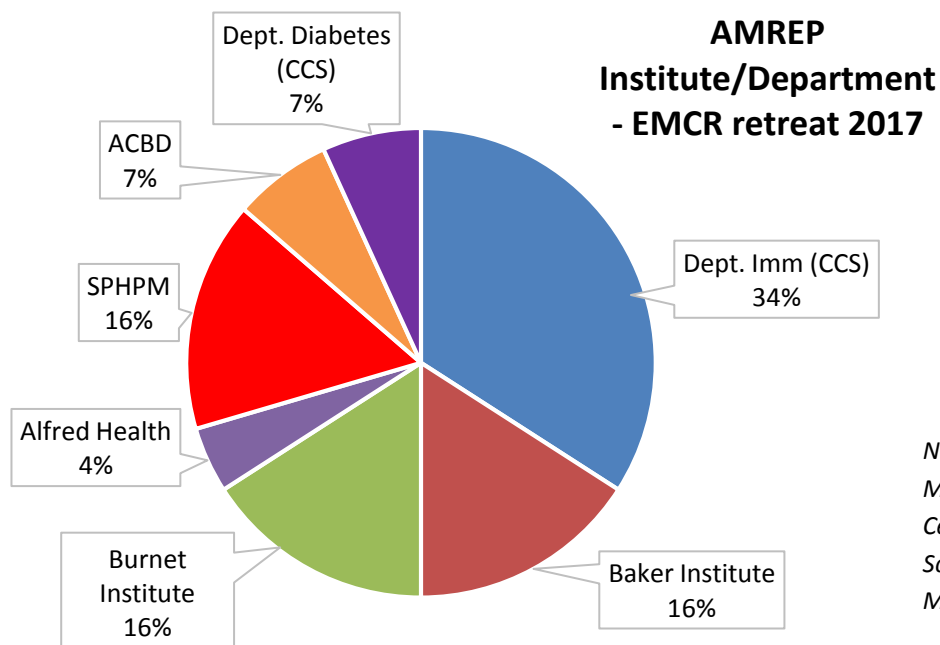


Dr Danielle Horyniak

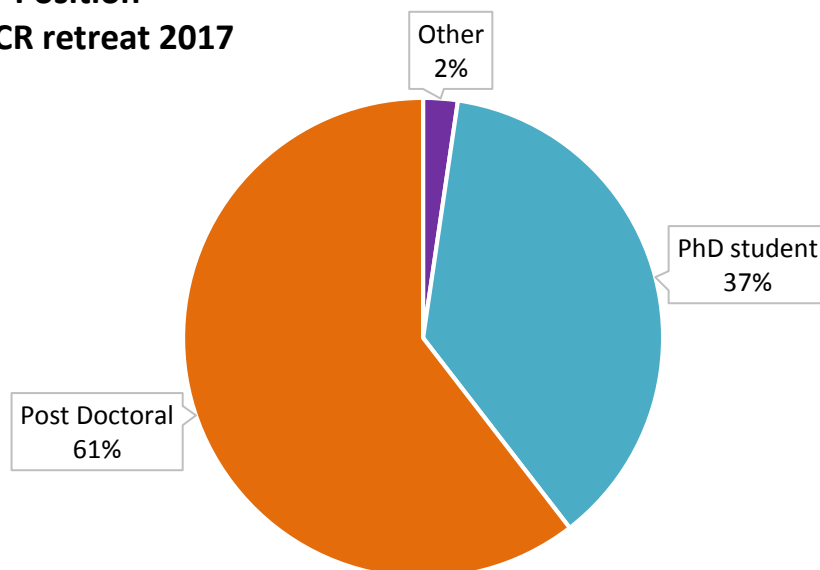
Burnet Institute

“Understanding the epidemiology of substance use among forced migrant populations”

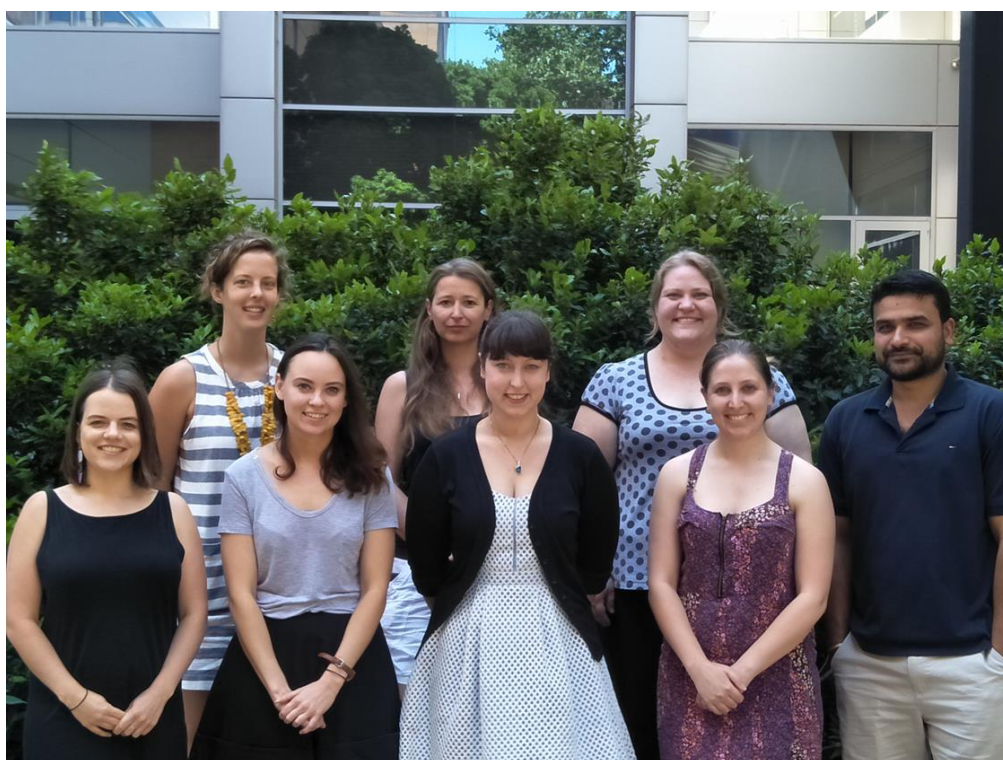
Though the overall numbers of attendees were down from the EMCR retreat held in 2015, we still had excellent representation from most of the departments and institutes across AMREP.



**Position
- EMCR retreat 2017**



I hope we succeeded in bringing everyone an enjoyable and informative retreat! We look forward to seeing you in 2018 at the AMREP EMCR symposium!



2017 Retreat organising sub-committee

(L-R) Caitlin Douglass, Kathleen Ryan, Shauna French, Karen Alt, Alicia Chenoweth, Katharine Goodall, Jodie Abramovitch, Jay Jha
(absent: Jess Anania, Megan Grace, Mahtab Parvaresh)

Dr Jodie Abramovitch
(Co-chair of EMCR retreat organising committee)

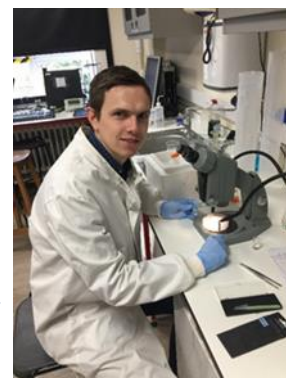
2017 EMCR Retreat Feedback



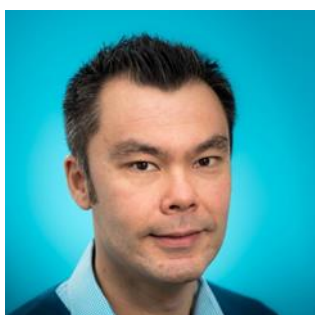
Dr Rosanne Freak-Poli
Monash SPHPM

I found the career talks helpful, particularly the talk by Megan Lim. It was great to hear how a career actually progresses, the pitfalls and the highs. No two careers are the same and it is important to have perspective.

Any opportunity to interact with peers, particularly in a more relaxed setting, helps promote discussion, ideas, and can even lead to collaboration. This is definitely the case across the AMREP Precinct where there is a diverse range of research going on. Personally, the most rewarding sessions of the retreat were the NHMRC grant panel discussion, which gave an overview of the implications of the upcoming changes to fellowships and projects grants, specifically from the perspective of an early career scientist. Being at the Baker we are not as aware of the wide range of facilities and services on offer within AMREP, and therefore the Facilities Overview was very thought provoking. Overall, I believe the AMREP Retreat is a great initiative and very rewarding for early career scientists such as myself!



Dr Mitchel Tate
Baker



Dr Gavin Higgins
Monash Dept. Diabetes

I found the NHMRC panel session and the discussion about the pending changes to the NHMRC funding scheme the most helpful. I would definitely go again and I would encourage others to attend in the future as well.

The EMCR retreat provided a great platform to learn about the diverse research conducted on the AMREP campus and to meet researchers outside of our own departments, as well as providing engaging and inspirational discussions with senior researchers on their successful careers. It was also great to hear from the Monash Grants Office on the changes with the incoming new NHMRC grant scheme, which focused on how the changes will affect early-mid career researchers. It was a fantastic and rewarding experience, both socially and educationally, and I recommend for everyone to take advantage of the opportunity.



Mr Tim Gottschalk
*Monash Dept.
Immunology and
Pathology*



Dr Danielle Horyniak
Burnet

Having just returned to Australia following several years as a postdoc in the US, the AMREP EMCR retreat was a great opportunity to re-connect with old friends (and make new ones!), reflect on my career trajectory and obtain valuable advice about how to take the next steps towards independence. The career talks session was particularly helpful, with the opportunity to hear from three inspirational researchers who reminded us that there are different pathways to success!

2018 AMREP EMCR Mentoring program

On Wednesday 15th November we launched the 2018 AMREP EMCR mentoring program for final-year PhD students and early and mid-career researchers. We heard from four great speakers who highlighted the important role that mentoring has played in their research careers and as well as strategies for selecting appropriate mentors and how to get the most out of the mentoring experience. Our speakers also discussed what they've gained personally from mentoring other researchers. A big thanks to our guest speakers for sharing their experiences and inspiring us with their enthusiasm: Associate Professor Carol Hodgson (Deputy Director of the Australian and New Zealand Intensive Care Research Centre, Monash University), Dr Caroline Gurvich (Senior Research Fellow at the Monash Alfred Psychiatry Research Centre, Monash University and Alfred Health), Dr Dan Andrews (Senior Research Fellow and Laboratory Head, Department of Immunology, Monash University) and Dr Timothy Colgan (Postdoctoral Research Fellow, Centre for Eye Research Australia). AMREP EMCR mentoring committee co-chair Dr Gavin Higgins also spoke about the AMREP mentoring program and how to become involved.



For further information about the 2018 mentoring program, please go to our website:

<https://www.monash.edu/medicine/ccs/research/ecr/mentoring>

To get involved in the 2018 program as a mentor or a mentee (or both!), please register your interest at:

<https://docs.google.com/forms/d/e/1FAIpQLSe8sok0HoUj0e7P2NuUujtOaoQddJrU7TAsM35-o-wfN-T1uA/viewform>

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