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Chair's Report



Dear A+ EMCR's

I hope all EMCR's in the Alfred precinct are doing well and safely passed the 2nd COVID-19 wave in Melbourne. I am happy to say we can now enjoy happy festive season while following the COVID safety plan.

This year the EMCR committee organised following virtual activities that include a mini-symposium and let's collaborate session. We have recently announced the A+ EMCR best paper awards and the mentoring program is also well on track. I would like to acknowledge all the sub-committee members for their hard work in their respective programmes. I will continue to provide support to all sub-committees and next year the A+ EMCR executive members will focus on bringing funds and increase on site activities, if COVID-19 safe plan continues to be successful. I wish you all happy festive season and come back with more positivity for next year.

Dr Moeen Riaz (Monash SPPM)
2020 A+ EMCR Committee Chair

Recruitment for New A+ EMCR Committee Members

The Early-Mid Career Researchers (EMCR) Committee currently operates at the A+ site and encompass EMCRs from Monash, Baker IDI, Burnet and the Alfred. Our primary purpose is to promote scientific exchange and oversee the professional development of EMCRs (1-10 years post-doc) and post-graduate students on the Alfred Research Alliance campus.

The A+ EMCR Committee is looking for dedicated, energetic and enthusiastic EMCRs (Research Assistants, PhD students, and 1-10 years Postdocs) to join our growing and dynamic committee in 2021. This committee will be responsible for the ongoing management and organisation of our EMCR-related activities at A+ (encompassing Monash, Baker IDI, Burnet, and Alfred), including the following:

- A+ EMCR Retreat (to be held in 2021)
- A+ EMCR Mentoring Program
- A+ EMCR Collaborative Seed Grants
- A+ EMCR Best Paper Awards
- A+ EMCR Newsletter / Website (including Facebook/Twitter)
- Professional Development Seminars

2020 Best Paper Awards Winners

In 2020, the A+ EMCR Committee awarded six papers the A+ EMCR Best Paper Award to honour the outstanding research that is being done and published by early and midcareer researchers within A+. In addition, this year we also introduced a “People’s Choice” Award. As such we encourage all EMCR to submit your best paper. Due to the current climate, this year there is no monetary prize associated with these awards.

Thank you to all of you for submitting your papers to the 2020 A+ EMCR Best Paper Awards. Congratulations to all winners.

PUBLIC HEALTH/CLINICAL RESEARCH (3 Winners)



A/Prof Jason Ong
*Melbourne Sexual Health Clinic
Central Clinical School, Monash
University*

Profile:

A/Prof Jason Ong is an academic sexual health physician with a passion for research among marginalized populations. He has a unique combination of skills and experiences of being a clinician, health economist and epidemiologist.

Publication:

Ong JJ, Baggaley RC, Wi TE, *et al.* Global Epidemiologic Characteristics of Sexually Transmitted Infections Among Individuals Using Preexposure Prophylaxis for the Prevention of HIV Infection: A Systematic Review and Meta-analysis. *JAMA Network Open.* 2019; 2(12): e1917134. doi: [10.1001/jamanetworkopen.2019.17134](https://doi.org/10.1001/jamanetworkopen.2019.17134).

Summary:

A global systematic review of PrEP programs that had two key messages: 1) the high prevalence of STIs at the first visit of pre-exposure prophylaxis users confirms that individuals at high-risk for STIs are attending PrEP programs; and 2) the high incidence of STIs underscores their need for ongoing STI testing and treatment.



Dr Monira Hussain
*School of Public Health and
Preventive Medicine, Monash
University*

Profile:

Dr Monira Hussain is a clinical epidemiologist (MBBS, MPH, PhD). She was the Unit Coordinator for Introductory Epidemiology (Monash University, 2016-9). Her expertise lies in surveillance projects, nationwide surveys, cohort studies, clinical trials, linkage studies, and systematic reviews.

Publication:

Sievert K, Hussain SM, Page MJ, *et al.* **Effect of Breakfast on Weight and Energy Intake: Systematic Review and Meta-Analysis of Randomised Controlled Trials.** *The British Medical Journal (BMJ).* 2019; 364: doi: [10.1136/bmj.l42](https://doi.org/10.1136/bmj.l42).

Summary:

Our study examined the effect of regular breakfast consumption on weight change and energy intake, and challenged the myth that “breakfast is important for preventing obesity”. Not only did we not find a beneficial effect of breakfast eating on weight loss in adults, but we also found that those who were allocated to eat breakfast ingested an average of 260 extra calories per day.



Dr Tiffany Phillips
*Melbourne Sexual Health Clinic
Central Clinical School, Monash
University*

Profile:

Dr Phillips is a Research Fellow at Melbourne Sexual Health Centre and Monash University with a background in genetics. Her current research focuses on STI epidemiology and prevention, with a particular interest in health promotion.

Publication:

Phillips TR, Fairley CK, Maddaford K, *et al.* **Bacterial Load of Chlamydia trachomatis in the Posterior Oropharynx, Tonsillar Fossae, and Saliva among Men Who Have Sex with Men with Untreated Oropharyngeal Chlamydia.** *Journal of Clinical Microbiology.* 2019; 58(1): e01375-19. doi: [10.1128/JCM.01375-19](https://doi.org/10.1128/JCM.01375-19).

Summary:

This study aimed to determine whether patients who tested positive for throat chlamydia would also have chlamydia bacteria detected in their saliva at two different sites: the tonsils and the back of the throat. Results showed that over half the participants had chlamydia detected in their saliva. Importantly, while we were able to detect the same amount of chlamydia bacteria at both the tonsils and back of the throat for most patients, there were a few patients that only tested positive for chlamydia at one site (i.e. swabs from either the tonsils or the back of the throat, but not both, resulted in a positive chlamydia test result).

BIOMEDICAL RESEARCH (3 Winners)



Dr Abdul Waheed Khan
*Baker Heart and Diabetes
Institute*

Profile:

Dr Khan is a researcher in the field of Epigenetics in diabetes and cardiovascular diseases. Dr Khan's interest is to understanding the role of epigenetic mechanisms in diabetes associated atherosclerosis.

Publication:

Streese L, Khan AW, Deiseroth A, *et al.* **High-intensity interval training modulates retinal microvascular phenotype and DNA methylation of p66Shc gene: a randomized controlled trial (EXAMIN AGE).** *European Heart Journal.* 2020; 41(15): 1514-1519. doi: [10.1093/eurheartj/ehz196](https://doi.org/10.1093/eurheartj/ehz196).

Summary:

Small blood vessel dysfunction is evident in ageing people at increased cardiovascular risk. My research showed that exercise and active life style functions of these vessels in older subjects via regulation of an enzyme P66Shc that plays an important role in oxidative stress. This study can lead to better health outcomes in older individuals with increased cardiovascular risk.



Dr Natalie Thomas
*Monash Alfred Psychiatry
Research Centre*

Profile:

Dr Natalie Thomas is an Early Career Researcher (ECR) within the Women's Mental Health Division at Monash University who works within the evolving fields of neuroendocrine research and related biomarker studies, using her interdisciplinary skills in laboratory sciences and clinical research.

Publication:

Thomas N, Gurvich C, Hudaib AR, *et al.* **Dissecting the syndrome of schizophrenia: Associations between symptomatology and hormone levels in women with schizophrenia.** *Psychiatry Research.* 2019; 280:112510. doi: [10.1016/j.psychres.2019.112510](https://doi.org/10.1016/j.psychres.2019.112510).

Summary:

Diagnosis of schizophrenia is based solely on clinical symptoms; we have no blood test nor brain scan we can rely on. This study investigated the association between sex hormones (eg. estrogen) and schizophrenia symptoms, over 12-weeks. Results demonstrated that subpopulations exist with unique psychopathology and hormone associations, supporting the hypothesis that sex-hormones are involved in the pathophysiology of schizophrenia.



Dr Maithili Sashindranath
Australian Centre for Blood Diseases

Profile:

Dr Sashindranath is Deputy Lab Head of the Vascular Biology group in the Australian Centre for Blood Diseases, Monash University, where she leads a team of research assistants and PhD students. Her current research interests are focussed on improving outcomes in small vessel thrombosis and ischemic stroke.

Publication:

Daglas M, Draxler DF, ..., Sashindranath M, Medcalf RL. **Activated CD8+ T Cells Cause Long-Term Neurological Impairment after Traumatic Brain Injury in Mice.** Cell Reports. 2019; 29(5): 1178-1191.e6. doi: [10.1016/j.celrep.2019.09.046](https://doi.org/10.1016/j.celrep.2019.09.046).

Summary:

Using experimental models of TBI, we were the first to show that there are long-term increases in immune cells known as CD8 T cells in the brain following head trauma. We used two methods to study the role of CD8 T cells in brain trauma: (1) genetically removed these cells from mice before injury, (2) tested an antibody to deplete these cells. When CD8 T cells are removed or prevented from accumulating, the brain remains healthy. These findings offer a breakthrough in the potential developments for drugs to prevent long-term brain damage after TBI.

PEOPLE'S CHOICE (1 Winner)



Dr Anna Wilkinson
Burnet Institute

Profile:

Dr Anna Wilkinson is an early career public health researcher, with interests in epidemiology, biostatistics, maximising the use of data, and evaluating public health policy. Dr. Wilkinson also has an extensive clinical background including working as a research nurse at the Alfred Hospital and Burnet Institute.

Publication:

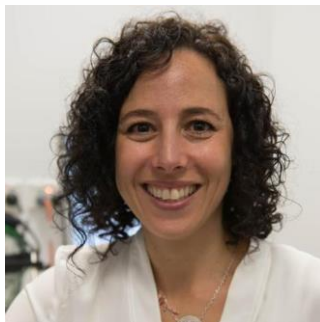
Wilkinson AL, Scollo MM, Wakefield MA, et al. **Smoking prevalence following tobacco tax increases in Australia between 2001 and 2017: an interrupted time-series analysis.** *The Lancet Public Health.* 2019; 4(12): E618-E627. doi: [10.1016/S2468-2667\(19\)30203-8](https://doi.org/10.1016/S2468-2667(19)30203-8).

Summary:

Dr Wilkinson and colleagues examined whether large increases in tobacco tax in Australia led to less people smoking. The tax increases were followed by reductions in the number of people smoking independent of a pre-existing downward trend. Dr Wilkinson and colleagues concluded that tobacco taxes lead to a 43% reduction in smoking prevalence.

EMCR Mini-symposium Feedback

We had a good turnout for the A+ EMCR mini-symposium on the 19th of November 2020 and some excellent presentations!



A huge thank you to [A/Prof Caroline Gurvich](#) for her talk on the mental health impacts of the pandemic lockdown, and to 2019 Collaborative Seed Grant winners **Vilijia Jokubaitis** and **Neha Kaul** for sharing the research that came out of the grant and advice for establishing new collaborations.

You can view Caroline Gurvich's talk here: <https://drive.google.com/file/d/1x2-TszFfPw7hNgmLtV-Knp42YOGiV7NN/view?usp=sharing>

"Let's Collaborate" Session Feedback

Thank you also to our speakers who pitched their research ideas during the "Let's Collaborate" session at the A+ EMCR mini-symposium. Their contact details and research ideas are described below - if anyone is interested in starting a new collaboration with one of the speakers, please get in touch with them! And if you have an idea that you'd like others to hear about, look out for further opportunities to present your collaboration pitch in similar sessions next year.

The collaboration pitches can be viewed

here: <https://drive.google.com/file/d/1K00jtY9VnluY2YmbdRh4H6yrsq9kGQ7C/view?usp=sharing>

Emily Cockle, Department of Neuroscience

emily.cockle@monash.edu

Stereo-EEG (SEEG) is an intra-cranial EEG technique used to localise the source of seizures in patients with drug resistant epilepsy, recently introduced to Alfred Hospital. It involves the implantation of electrodes with EEG sensors into the brain, allowing mapping of epileptic seizures, brain networks and cortical functions. In collaboration with Monash Neuroscience, researchers can take advantage of this rare opportunity to examine the human brain in-vivo. We are looking for enthusiastic collaborators to optimise the quantitative techniques to define epileptic regions; broaden our knowledge of normal and pathological brain networks; or simply bring an idea that SEEG can help solve. We are looking for biomedical engineers (quantitative EEG signal processing, functional connectivity analysis skills) and cognitive neuroscientists (utilising intra-cranial recordings to interrogate cognitive function)

Cindy Gueguen, Baker Heart and Diabetes Institute

cindy.gueguen@baker.edu.au

I'm interested to explore the energy status (NAD⁺) during cardiovascular diseases in animal models and how the restoration of NAD⁺-dependent enzymes (SIRT) can improve outcomes. I'm looking for EMCR with the same interests/available techniques (NAD⁺ measurement, WB...). I'm a pre-clinical pharmacologist with industry experience in drug transition to clinic and a postdoc in the Neuropharmacology Laboratory (Baker). The influence of the central nervous system on blood pressure and the relationship between blood pressure and stress pathways in the brain is a major focus of our studies. Our experiments use continuous recordings of cardiovascular parameters by radiotelemetry in animal models.

Matthew Snelson, Department of Diabetes

matthew.snelson@monash.edu

I've investigated the effects of diet on the development of intestinal permeability and diabetic kidney disease in an animal model, including in vivo assessment of the gastrointestinal barrier. I would like to explore the mechanistic pathways in a cell culture model, looking at the effects of particular components of the diet on epithelial permeability. I'm keen to find someone to who has experience with measuring epithelial permeability in vitro. If you have experience growing epithelial cells (e.g. Caco2) on transwell inserts and performing measurements like TEER or looking at translocation of Dextran-FITC, lucifer-yellow compounds or any other markers of permeability then I'd love to hear from you.

Mentorship Updates

The A+ EMCR Mentorship Program attracted considerable interest this year, leading to 30 mentees being matched with 30 more experienced mentors. Common areas that mentees were seeking guidance and support were fellowship applications, grant writing, promotions, and supervision of students and junior staff. Early positive feedback suggests the program was a success. A more formal opportunity for both mentees and mentors to provide feedback will occur in early 2021, with results used to improve the next mentorship program. To those who participated, we hope you've enjoyed expanding your network and skills. To those interested in future participation, keep an eye out for information on the next round.



Alfred Research Alliance EMCR Committee

Edited by Associate Professor Eric Chow

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