ANZBMS EARLY CAREER INVESTIGATOR Newsletter

Looking Ahead in 2021!

The Preprint Revolution

Challenges Faced by ECIs

Cover Image: This image won the "Most Artistic" award at the Translational Research Institute Cores in Colour competition. It is a micro-CT image of an osteopetrotic rat cortical bone due toCsf1rdeficiency. I call it the "boneycomb" - by Lena Batoon (Mater Research Institute – The University of Queensland).





In this issue

ECIC Co-Chairs Report (2) ANZBMS ECIC Initiatives for 2021 (3) Looking Ahead in 2021! (4,5) ECI Spotlight (6) The Preprint Revolution (7) Challenges Faced by ECIs (8,9) NHMRC Guideline Changes (9) ECI Member Awards (10) Grant Opportunities (11,12) 2021 Meetings Calendar (13)

ECIs please send us your scientific images - the best will feature on the front page of our next issue.

ecinewsletter@anzbms.org.au



@anzbms_ecic

Editorial Board





Cantley







Dr. Renee Ormsby

Mr. Aaron

Fernandez

Ramchand



Dr. Victoria Leitch



Dr. Emma Buckels



Ms. Amy Ribet

ECIC Co-Chairs Report

Welcome to Issue 6 of the ANZBMS ECI Newsletter, the first one for 2021. The ECIC is excited for a productive year ahead and we have many initiatives currently being organised (details on page 3).

2020 was a challenging year but it also resulted in researchers demonstrating strong resilience, patience and determination to continue their research and maintain outputs. The move to virtual conferences, although lacking the ability for face-to-face interactions and conversations, enabled us to attend national and international meetings that we normally would not have had the opportunity to attend. The ANZBMS ASM also went virtual, and with great success. This year we are hoping for a face-to-face meeting in Melbourne (23-25th November) with a virtual component, but this is still to be decided. Irrespective of the chosen format, we look forward to delivering ECI specific events that will allow you to interact with your peers.

During 2020, our virtual coffee catch-ups (#ANZBMSCoffeeCatchup) were a great success. Both ECIs and senior ANZBMS members contributed to interesting and topical discussions that were pertinent to ECIs. The feedback received was very positive and we have decided to continue this initiative in 2021. If you have any ideas for topics or would like to know more, please contact us (ecic@anzbms.org.au). The ECIC is also very active on Twitter, using this forum to share information about the society, celebrate achievements and relevant webinars/talks/conferences being held by other musculoskeletal societies. Make sure to check out the ECIC Twitter page @ANZBMS_ECIC.

In the coming weeks you will receive an email detailing our newest initiative, the ECI database. This initiative involves generating a database of ANZBMS ECI member profiles that will enable us to proactively identify and engage ECI members that are suited to a variety of opportunities that will further their career prospects. These include, but are not limited to: ECI grants, awards, reviewer roles, and invited speaker opportunities. We encourage you to complete the expression of interest as we are very keen to know more about our ECI members and in the hope of enhancing their research careers.

We hope you have a happy and productive 2021. Dr. Melissa Cantley & Dr. John Kemp *ECIC Co-Chairs*







ANZBMS ECIC Initiatives for 2021



Career Development Subcommittee



Clinical Subcommittee





Events Subcommittee





Communications Subcommitee POC Rep

The Career Development Committee will be **piloting a Fellowship Coaching Scheme** in 2021 that will leverage experience from senior members within our society and translate this into practical one on one support, guidance and advice that will ultimately benefit ECIs and improve their chances of fellowship success. In combination with this scheme the Career Development Committee is working on establishing a **library of successful grants / fellowships** from ANZBMS members that can be accessed by ECIs. If you are planning to submit a NHMRC Investigator Grant application in 2022 and would like to know more please email <u>ecic@anzbms.org.au</u>

The ANZBMS ECIC often gets requests from national and international bone societies to nominate ECIs for potential speaking, reviewing and other research and professional service roles. We have therefore elected to establish a **database of ECI member profiles** that will be enable us to proactively identify and engage ECI members that are suited to these roles. All ECI members are encouraged to participate in this initiative by filling out the expression of interest form when you receive the email link.

Coffee catch ups: After the success of the ANZBMS Virtual Coffee-Catch up sessions in 2021 and the positive feedback received we will be continuing this initiative in 2021. The first Virtual Coffee Catch-up for 2021 will be held on Friday 9th April (10.30am AEDT) and will be focused on '*Getting that WOW factor – writing an application that stands out from the crowd'*. Make sure to put this date in your calendars and more details will be circulated soon via email and Twitter.

Joint webinar with ECTS Academy - Following the success of this new initiative in 2021 with Dr Scott Youlten being the first ANZBMS presenter we are currently organizing the next joint webinar with the ECTS Academy, this will be held mid 2021. Please keep an eye on your emails and Twitter for more details.

Clinical Sub-committee - the Clinical Subcommittee will focus on ensuring that Clinical Trainees have access to the training they need through the **RACP webinars**. More details on these sessions will be sent via email and also on Twitter.

The Communications Team is working very hard on the **ANZBMS ECIC Twitter page** (@ANZBMS_ECIC) to share society information, celebrate member successes, and provide details about other relevant events.

ECI events at the Annual Scientific Meeting in November 21-24th 2021. Dr Ayse Zengin is the ECIC POC rep. Stay tuned for details and announcements.



James Smith, PhD candidate

Garvan Institute of Medical Research

My silver lining for last year would be that time away from the lab has allowed me (and others) to really hone in on bioinformatic skills and other things that can be easily done remotely! My main hope for 2021 is to have the opportunity to return home to see my partner and family for the first time in over a year, and also that England win the Ashes later in the year!





Renee Ormsby, Postdoctoral Researcher

Harvard University

In 2020 I embarked on a new journey in the US, to work in my first post doc position. It was a big move and despite ending up in lockdown for the first few months, it has been incredibly stimulating. I am lucky to be in a great lab with welcoming people and have an amazing PI who has inspired me. The things I'm looking forward to in 2021 include not wearing masks! maybe some travel at the end of the year and meeting new people.

Kate Barratt, Research Assistant

University of South Australia

2020 was an interesting year to say the least, but for me it was not all doom and gloom. The lock down in Adelaide during the start of the year is probably what actually got my thesis written! I was able submit a thesis and graduate with Masters in Research, my first 'first-author' paper was published in Bone, and another manuscript is currently in the making. I am now excited in 2021 to be researching the potential benefits of vitamin D supplementation on patients with X-linked hypophosphatemia and hoping to find some positive effects of dietary supplementation.





Scott Youlten, Postdoctoral Researcher

Garvan Institute of Medical Research

In 2020, due to COVID-19 I had the opportunity to present in Europe from my dining room table with roosters crowing in the background! In 2021, I look forward to watching my brother's new baby grow!



Looking Ahead in 2021!



Dzenita Muratovic, Postdoctoral Researcher

The University of Adelaide

In 2020, due to COVID-19 as many scientists, I had to work from home. I promised myself as soon as I am back in the laboratory, I will work to establish as many collaborative studies as I can. Consequently, in 2021 I teamed up with intelligent young engineers Dr Ryan Quarrington and Dr Jasvir Bahl on a very exciting interdisciplinary project that will ultimately result in new knowledge of the role of subchondral bone in the progression of osteoarthritis.

Amy Ribet, PhD Candidate

University of Western Australia

In 2020, time away from the lab bench gave me the opportunity to focus on my bioinformatic skills and write an extensive literature review that has been accepted for publication. In 2021 I will be entering the 3rd year of my PhD and will focus on key experiments needed to complete my project.





Nicholas Hart, Senior Research Fellow

Division of Cancer Services, Princess Alexandra Hospital

COVID-19 has changed the world, and academia, forever. As people, and researchers, during 2020 we all had to adapt rapidly. This year, during 2021, we see the benefits of outstanding research generating more than one highly effective vaccine that will hopefully enable our lives as academics, researchers, and citizens of the world

to return to some level of normalcy. For me, the lock down of 2020 enabled me to transform my clinical trials (exercise to people with bone metastases or bone disease) to a telehealth model. Much like real-world health services, my own trials have adapted which will provide significant evidence of feasibility, safety and efficacy in this context that would otherwise not have been tested. In 2021, I look forward to delivering more face-to-face clinical research, expanding telehealth research and attending some conferences in-person, to see my colleagues and friends in Australia, and with some luck, the world.

Kai Chen, Research Associate

University of Western Australia

I was between jobs in this difficult year but I managed to secure a position. My goal in 2021 is to polish grant-writing skills, and fingers crossed that I can make it happen!





ECI Spotlight

Dr Marc Sim

Post-Doctoral Research Fellow

Institute for Nutrition Research, School of Medical and Health Sciences,Edith Cowan University



What is your research about?

I'm based at the Edith Cowan University, Institute for Nutrition Research (ECU-INR) where I'm looking at how modifying diet and lifestyle can improve musculoskeletal health and reduce falls in older adults. It is directed towards developing tools to identify high risk populations for early inclusion into novel holistic diet and lifestyle primary prevention programs.

While most people know diet and exercise are good for you, very few actually adhere to the recommendations. Under the guidance of A/Prof Joshua Lewis and Prof Jonathan Hodgson, we have developed the Modification Of Diet Exercise and Lifestyle study (MODEL). This study examines if knowledge of abdominal aortic calcification (AAC); a marker of advanced atherosclerosis can serve as a 'powerful trigger' to prompt long-term changes in dietary and lifestyle factors known improve to musculoskeletal health.

Congratulations on your recent grant! Can you please tell us about it.

I was fortunate to be awarded a Royal Perth Hospital Research Foundation Career Advancement Grant that will support my salary for the next 3 years, or until I can get a NHMRC Emerging Leader Fellowship. The grant is designed to nurture early to mid-career researchers, who are associated with the Foundation, by enabling them to make vital progress along their chosen career paths. I find it very exciting that musculoskeletal research has been recognised as a priority by these organisations and are supporting work in our field. In my case, the additional funding will enable me to undertake my first full-time research position and lead larger projects.

As an exercise physiologist, what are your thoughts on involving allied healthcare professionals with ANZBMS?

The ANZBMS is an extremely impactful society that is a fantastic mix of clinical, laboratory and increasing number of allied health researchers. It has been amazing to see more exercise and nutrition research presented at the annual conference each year. For me, this indicates that the ANZBMS support lifestyle interventions improve musculoskeletal health. to The 'stumbling block' is the current integration of lifestyle intervention into clinical practice. In my opinion, the uptake and long-term commitment to these programs by patients are reliant on the promotion, referral, and continuous support from clinicians. In Australia and New Zealand, we are especially fortunate to have nationally physiologists with accredited exercise in-regards comprehensive training to musculoskeletal rehabilitation. Perhaps, there needs to be a greater focus on implementing lifestyle medicine to support clinical practice. To this end, Prof. Itamar Levinger and myself are running a seminar with Exercise and Sport Science Australia to explain the role of an exercise physiologist, how they fit under the Medicare scheme, while also including a clinician's perspective.





The Preprint Revolution

In this time of heightened global concern due to the COVID-19 pandemic, focus has been placed on the need for timely reporting and dissemination of scientific research findings. To this end, preprints, a new method of scientific communication that is more rapidly accessible, has received much of the spotlight, with a swift uptake of preprints in medicine observed in 2020. This article highlights some of the key considerations regarding preprints in medicine and science,

What are preprints?

A preprint is a complete draft of a scientific document shared publicly on a preprint server/repository without in-depth editorial peer review or editing before release. The first preprint repository, arXiv, was established in 1991, with bioRxiv (biology) and medRxiv (health sciences) subsequently released in 2013 and 2019, respectively. <u>https://www.medrxiv.org/</u>



medRχiv

Why submit a preprint?

- Scientists may wish to submit preprints to speed dissemination of their research findings, establish priority and expand readership. Preprints are usually published within 24 hours, whereas the average time to publication could take months to years depending on the journal.

- Researchers are able to annotate each others preprints on the server, potentially allowing for valuable feedback from a large number of readers prior to submission to a journal.

- Enables establishment of primacy: permanent datestamp within 24 hours of posting.

- A number of funding institutions encourage investigators to use research products such as preprints to serve as interim evidence for productivity and output towards establishing a body of work. This is relevant for early career researchers as it may take several years of work, if relying solely on journal publications, before output can be shown. Conversely, in self-publishing without some contexts. appropriate editorial/supervisor support could entrench disadvantage. Alternative strategies to show output may include publication of protocols or methods reports.

Potential disadvantages of submitting a preprint

- The impact of a higher scale of media interest in preclinical and clinical research means that the impact of error could be far greater. Indeed, research into preprints has shown a high level of correction or revision of preprints. Once manuscripts are submitted the content cannot be removed, though authors can display a comment to say that the article has been withdrawn,

- Preprints can also be accessed by the general public, compounding the potential harms of disseminating research findings that are not vetted and which may be invalid.

Can I include a preprint in a grant application?

Currently the NHMRC or ARC have not provided any specific guidance with respect to inclusion of preprints to a CV. Other international funding bodies, such as the NIH (USA) and MRC (UK), encourage investigators to use interim research products, such as preprints, to show productivity, as long as specific guidelines for reporting have been followed.

Can I submit a manuscript for publication in a journal if I have previously submitted this work to a preprint server?

Submission of preprints are accepted by all open access journals and most subscription journals.

PNAS Science nature Structure thebmj Cell OXFORD THE ROYAL SOCIETY AAGER American Association nature

It is important to note that although preprints are usually not considered prior publication, there is a risk of embargo violations if the press or public publish findings from a preprint, which may then be considered a prior publication, To find out whether posting of a preprint is permited by a specific journal, you can:

1. View the list of academic journals by preprint policy: <u>https://en.wikipedia.org/wiki/List_of_</u> academic_publishers_by_preprint_policy

2. Check SHERPA/RoMEO, for specific journal preprint policies: <u>https://v2.sherpa.ac.uk/romeo</u>



Current Challenges Faced by ECRs



Life as an ECR right now is challenging. Not only has COVID-19 limited our ability to meet collaborators face to face, go to conferences and experience the travel benefits that our careers normally hold, but the scarcity of funding in Australia and New Zealand is also a big deterrent when it comes to pursuing a career in research. The NHMRC success rates, mentioned in our previous newsletter issue, are very low at only 10-12.4% for emerging researchers. So, this naturally leads us to the question: what alternative career paths are there for early career researchers?

A recent survey conducted by Christian et al, 2021 of 658 ECRs (less than 10 years PhD) revealed the current state of play with research and the challenges they face. This study revealed that 31.9% of the respondents were somewhat or very dissatisfied with their workplace culture with the **most significant barrier to job satisfaction and career advancement identified as job insecurity (48.9%). 78.3%** of the respondents had considered a **major career change in the last 5 years**. The two major reasons for respondent's motivation for leaving their current positions were **1) lack of funding** (28.2%) and **2) job insecurity** (48.9%). More results of this study can be found here: <u>https://elifesciences.org/articles/60613</u>.

What are some other career options?

Teaching - Many universities have positions where a PhD student or graduate can apply to be a Tutor. The easiest way to get involved is to find someone in a teaching position and either volunteer your time or ask if there's a demand for Tutors. Universities advertise current positions for Lecturers which is also an option but often these smaller roles are fulfilled by word of mouth. This article from QUT details how to get work as a tutor/demonstrator/lecturer.

https://cms.qut.edu.au/__data/assets/pdf_file/0016/634300/What-you-need-to-know-__

before-you-graduate.pdf

Science Communication - Explaining our research to the public is no easy feat. Describing the intricacies of cellular pathways, clinical tests and how our biomedical devices work requires good communication skills, with an enthusiasm that conveys the importance of what we do in a lay manner. Having this skill set is really important not just as a researcher but as someone who communicates the science we see daily in the news. The Australian Science communicators has a list of the various careers associated with scientific communication, including a list of careers, how to guides and programs and courses that are available.

https://www.asc.asn.au/site-help/

Medical science liaison - A medical science liaison is described as a specialized role where a person is hired by industry, and is capable of explaining clinical and medical science. PhD graduates are perfect for this role as we are often capable of translating science to doctors, other healthcare professionals or even healthcare companies. A medical science liaison is often a representative of a healthcare company, including pharmaceutical, biotech and other healthcare related fields. PhD graduates are great at learning about new drugs or pathways and are often successful in these positions. An article by Isaiah Hankel describes the 7 Things PhDs Should Know about Medical Science Liaisons.

https://www.linkedin.com/pulse/what-medical-science-liaison-7-things-phds-should-

<u>hankel-ph-d-</u>



Patent law - Writing scientific patents often requires a background knowledge general patent writers don't have. PhD graduates develop both oral and written communication skills that allow us to communicate research to other individuals, which usually includes complex scientific concepts. As a patent agent, a PhD graduate can adapt these skills to writing patent applications and contracts which could include a wide range of science. An article by Natalia Phillips asks the question *"Alternative Career Paths: Is a Career in Patent Law Right for You?"* which details more of the attributes a PhD Graduate has that are applicable to this career path. https://www.epicypher.com/resources/blog/alternative-career-paths-is-a-career-in-patent

<u>-law-right-for-you/</u>

This article by Ian Rourke from ScienceMag details becoming a patent attorney in Australia and various other roles that a PhD graduate could pursue. https://www.sciencemag.org/careers/2002/11/becoming-patent-attorney-australia_

Pharmaceutical Industry and other types of industry - The pharmaceutical industry is a well-known alternative pathway for PhD graduates. Technical skills learnt during a PhD are often transferable, especially in Research & Development departments. Despite the belief that PhDs are over-qualified, this article by Isaiah Hankel states simply "Employers see you as perfectly qualified, especially for technical work."

https://www.linkedin.com/pulse/brace-yourself-heres-what-employers-secretly-think-hankel-ph-d-/

This article from by Kendall Powell describes "*How to sail smoothly from academia to industry*" and suggests that if industry is your chosen path then its best to plot that course as soon as possible. <u>https://www.nature.com/articles/d41586-018-03306-1</u>

Further reading includes this article by ScienceMag.org which highlights the careers of five people who decided to leave research for other careers. <u>https://www.sciencemag.org/careers/2016/11/postdocs-leaving-lab</u>

NHMRC grants changes for the coming round

- Applications will be submitted in Sapphire for the first time for the Investigator Grant scheme
- Emerging Leadership Level 1, Emerging Leadership Level 2 and Leadership (consisting of Levels 1, 2 and 3 combined).
- Applicants will now be required to provide a justification for their selected Category and Level of Investigator Grant. Statements of Expectations have been revised to assist applicants by including the typical research experience (number of years post-PhD) and academic level expected of applicants at each Investigator Grant level.
- Revised Relative to Opportunity policy is being trialed for track record assessment.
- NHMRC is strongly encouraging the use of gender-neutral language in applications to all its schemes.

Emerging Leadership Level 1 (EL1): It is expected that EL1 Investigator Grant recipients will typically be between **0 and 5 years post PhD** (or equivalent) and will be beginning to gain recognition in their research area.

Emerging Leadership Level 2 (EL2): It is expected that EL2 Investigator Grant recipients will typically be **between 5 and 10 years post-PhD** (or equivalent), and be eligible for appointment at **Academic Level B** (or equivalent), and recognised for their expertise in their research area.

Leadership Level 1 (L1): It is expected that L1 Investigator Grant recipients will typically be **between 10 and 15 years post-PhD** (or equivalent), and be eligible for appointment at **Academic Level C or D** (or equivalent) and be national authorities in their research area.

https://www.nhmrc.gov.au/funding/find-funding/investigator-grants-2021-fundingcommencing-2022



Congratulations to the following ECIs on their amazing achievements.





Dzenita Muratovic

Project: Bone - specific targets for Osteoarthritis Management

ANZBMS/Bone Health Foundation Grants in Aid

Melissa Cantley

Grant opportunity: ANZBMS and the Bone Health Foundation will co-fund up to 2 x one-year Grants in Aid of \$25,000. Applications close on the **26th of March 2021**.



Royal Perth Hospital Research Foundation Career Advancement Grant Marc Sim



CBSM Frontiers in Genetics, Cell & Developmental Biology Oral Presentation Award

Amy Ribet



CBSM Senior Research Scientist - Biomedical Award Kai Chen



Science & Technology Australia Superstars of STEM

selected as one of 60 Australian Superstars of STEM in 2020

and

MBSANZ young investigator career achievement award Jiao Jiao Li

ECIs if you have received any awards, funding etc please email us at ecinewsletter@anzbms.org.au. We would love to share and celebrate your success!



Grant Name	Application Period	Website
NHMRC Investigator Grant	3 February- 3 March 2021	https://www.nhmrc.gov.au/funding/find- funding/investigator-grants-2021-funding- commencing-2022
NHMRC Ideas Grants	10 March - 7 April 2021	https://www.nhmrc.gov.au/funding/find- funding/ideas-grants
ANZBMS Bone Health Foundation Grant - Research Grants in Aid for Mid Career Researchers	22 February - 12 March 2021	https://www.anzbms.org.au/award-anzbms- bone-health-foundation-grant.asp
Ramaciotti Health Investment Grants	TBA March 2021	https://www.perpetual.com.au/ramaciotti/ applications
Arthritis Australia Grants Program	TBA April 2021	https://arthritisaustralia.com.au/programs- research/national-research-program/key- dates-how-to-apply/
Al and Val Rosenstrauss Fellowship	1 April - 30 April 2021	https://www.cooperfoundation.org.au/ apply-review/
Amgen/Healthy Bones Australia/ANZBMS Clinical Grants Program 2021	TBA Mid 2021	https://healthybonesaustralia.org.au/research -grants/latest-grants/



Grant Name	Application Period	Website
Health Research Council - Health Delivery Research Activation Grant, Health Delivery Research Career Development Award	9 February - 18 March 2021	https://gateway.hrc.govt.nz/funding/researcher- initiated-proposals/2021-health-delivery- research -activation-grant: https://gateway.hrc.govt.nz/funding/researcher -initiated-proposals/2021-health-delivery- research-career-development-award
Royal Society Te Apārangi: Catalyst Leaders fellowships and Catalyst Seeding (general)	28 January - 15 April 2021	https://www.royalsociety.org.nz/what-we-do/ funds-and-opportunities/catalyst-fund/ catalyst-seeding/funding-overview-2
The MBIE Science Whitinga Fellowship	26 February - 20 April 2021	https://www.royalsociety.org.nz/what-we-do/ funds-and-opportunities/mbie-science- -fellowship/about-mbie-science-whitinga- fellowship/
HRC Māori PhD and Masters scholarships and HRC Pacific Health PhD and Masters scholarships, postdoctoral fellowship, and knowledge translation grants	June - 13 July 2021	https://gateway.hrc.govt.nz/funding/maori- health-research https://gateway.hrc.govt.nz/funding/pacific- health-research
Health Research Council - 2022 Project Grant (expression of interest)	June - 14 July 2021	https://gateway.hrc.govt.nz/funding/researcher- initiated-proposals/2021-projects
Royal Society Te Apārangi: Rutherford Foundation Postdoctoral Fellowship	Due 5 August 2021	https://www.royalsociety.org.nz/what-we-do/ funds-and-opportunities/rutherford-foundation /funding-opportunities/new-zealand- postdoctoral -fellowships/
Lottery Health Research - translational research projects, shared research equipment, post-doctoral research fellowships, PhD scholarships	July - 2 September 2021 (tentative)	https://www.communitymatters.govt.nz/ lottery-health-research/



2021 Meetings Calendar

ORS Annual Meeting

12-16 February 2021 Virtual

ISCD Annual Meeting

3-6 March 2021 Virtual

IFMRS H Fleisch Workshops 15, 17 & 19 March 2021 Virtual

ECTS Congress

Live Prime Time 6-8 May 2021 ECTS@Home 19-20 May Virtual

WCO-IOF-ESCEO Congress

26-29 August 2021 London, United Kingdom

Bone Research Society Annual Meeting

28-30 June 2021 Virtual

JSBMR Annual Meeting

8-10 October 2021 Format TBC

ANZORS 26th Annual Conference

October 2021 Sydney, Australia

ASBMR Annual Meeting

1-4 October 2021 Toronto, Canada

ANZBMS/ESA/SRB Annual Meeting

21-24 November 2021 Melbourne Convention Centre

ANZBMS-MEPSA-Vitamin D Workshop Joint Scientific Meeting 2022

1-4 August 2022 Gold Coast, Australia

Cancer and Bone Society (CABS) Annual Meeting

TBC Virtual

ANZSSFR Symposium