

Hello Eurekians,

Welcome to the November/December issue of *Eureka Briefing*, and the final one of this year! In this issue, we talk to Ann-Marie Chacko about Eureka's nodes and how Eureka can be more globally connected, hear from Wei Li and Xiao Huang in 'About my research' and, as usual, highlight some recent publications from Eurekians.



The Eureka network has several nodes (image from Pixabay).

A chat with Ann-Maria Chacko



[Ann-Marie Chacko](#) is head of the Duke–NUS Laboratory for Translational and Molecular Imaging. Here, she chats to *Eureka Briefing* about how her background, training in North America and move to Duke–NUS in Singapore give her a unique perspective on how Eureka's nodes can better interact.

Eureka has several nodes, or [partner institutions](#), which are in North America, Europe, the Middle East and Asia. How have your experiences helped you understand the needs of the different Eureka nodes?

My family are from Kerala in India, I'm first-generation Canadian, and I got my PhD and did post-doctoral research at the University of Pennsylvania in the USA. Then about 8 years ago I got recruited to Duke–NUS in Singapore to develop research that was near and dear to my heart, which is molecular imaging.

Before my appointment at Duke–NUS I'd visited Asia and Asia Pacific many times. I had some context of the region because of my family's origins and my cultural experience.

Yet when I arrived in Singapore, it was very eye-opening. Equipment and experts are not as readily accessible as they are in North America and Europe. My speciality is nuclear medicine. It's a very niche field that uses advanced technology. So it's quite expensive to adopt, use and train people.

I had to re-assess what research questions I could tackle myself and where I needed to reach out to a much larger network. I was able to build my research group from the ground upward through collaboration, conversations and dialog. It was really about really building relationships with people.

When you're working within a country you get a better understanding of how the research systems are very different from those in other countries that you've worked in.

How can Eureka's nodes continue to move forward?

I really appreciate how Eureka has grown over the years so that there's now better integration of the American perspective, the European perspective, now the Asian perspective. Our experiences of translational research are different, but at the same time we have similarities.

The Eureka nodes are so important because they help us build a local ecosystem of translational scientists. So now we need to work out how to take those regional experiences, their strengths, and the learnings from them and build them together with experiences from other parts of the world to address larger challenges and opportunities.

How can Eureka be more considerate of what's happening in other parts of the world?

We have to stop thinking that a specific problem doesn't affect us or that it's not our problem. COVID was such an eye-opening example where the West failed in this regard because COVID was initially seen as China's problem. We need a more interconnected outlook and learn from past experiences.

That's what I love so much about Eureka. We are a global network. To address problems in translational science, a global perspective is required, because most of the money is going to be in the advanced countries, but the need is the most in the global South.

Eurekians have the opportunity to go after problems relevant to ourselves, but also globally. And even preempt what we think the challenges may be, for example with AI adoption. This is a chance for Eureka to have a voice. Even though we are a large group of people, Eureka is a safe zone. We can share our opinions, we can be ourselves and use our uniqueness as an advantage to address big problems.

What practical steps will make Eureka's nodes more globally connected?

After a Eureka event, such as the International Certificate Course, Master's Program or Summer School, it's very easy for everyone to go back to their own reality once they leave.

What we need within Eureka is a little bit more interconnectedness, not just online via Zoom but physical engagement through face-to-face meetings. For example, at the beginning of December I was in Philadelphia, so while I was there I made sure I got to meet up with Eurekians there. It was a phenomenal time for us to all be together and to get revitalized.

Of course, time and money are barriers to meeting in person, but if there is a strong interest then maybe we can think outside the box to find funds. Perhaps we could have mini-conferences, each focused on a specific angle where Eureka can create the greatest impact.



Face-to-face meetings offer a different type of interaction than online meetings (image from Pixabay).

Publications by Eurekians

Below are some recent publications that have Eurekians as first or last authors, or were highlighted by Eurekians. Have a scroll to see if any catch your eye!

[New Way to Study Pulmonary Hypertension in HFpEF.](#)

Dai Z, Thorp EB.

doi: [10.1161/CIRCRESAHA.123.323753](https://doi.org/10.1161/CIRCRESAHA.123.323753).

[Gamification in dermatology: A systematic review.](#)

Nichole TYT, **Oh CC**.

doi: [10.1111/ajd.14137](https://doi.org/10.1111/ajd.14137).

[Neuropsychiatric phenotypes in children with Noonan syndrome.](#)

Naylor PE, Bruno JL, Shrestha SB, Friedman M, Jo B, Reiss AL, **Green T**.

doi: [10.1111/dmcn.15627](https://doi.org/10.1111/dmcn.15627).

[Automated Adolescence Scoliosis Detection Using Augmented U-Net With Non-square Kernels.](#)

Wu Y, Namdar K...**Khalvati F**.

doi: [10.1177/08465371231163187](https://doi.org/10.1177/08465371231163187).

[Online Buffer Exchange Enables Automated Membrane Protein Analysis by Native Mass Spectrometry.](#)

Liu W, Jayasekera HS, Sanders JD, Zhang G, Viner R, **Marty MT**.

doi: [10.1021/acs.analchem.3c02164](https://doi.org/10.1021/acs.analchem.3c02164).

[JAK Inhibition with Baricitinib for Severe COVID-Related Enteropathy: a Case Report.](#)

Abdelmoumen A, van Montfrans J, van Wijk F, Leavis H.

doi: [10.1007/s10875-023-01569-6](https://doi.org/10.1007/s10875-023-01569-6).

[The long economic shadow of a cancer diagnosis during adolescence or young adulthood.](#)

Nathan PC, Yabroff KR.

doi: [10.1093/jnci/djad114](https://doi.org/10.1093/jnci/djad114).

[Targeting the epigenetically older individuals for geroprotective trials: the use of DNA methylation clocks.](#)

Sandalova E, Maier AB.

doi: [10.1007/s10522-023-10077-4](https://doi.org/10.1007/s10522-023-10077-4).

[Combining retinal structural and vascular measurements improves discriminative power for multiple sclerosis patients.](#)

Bostan M, Li C... **Chua J.**

doi: [10.1111/nyas.15060](https://doi.org/10.1111/nyas.15060).

[Cancer patients' experience of receiving variant of uncertain significance results: An Asian perspective.](#)

Ishak ND, Shaw T... **Ngeow J.**

doi: [10.1002/jgc4.1813](https://doi.org/10.1002/jgc4.1813).

[Bone Regeneration in a Large Animal Model Featuring a Modular Off-the-Shelf Soft Callus Mimetic.](#)

de Silva L, Longoni A...Gawlitta D.

doi: [10.1002/adhm.202301717](https://doi.org/10.1002/adhm.202301717).

[Economic Evaluations of Imaging Biomarker-Driven Companion Diagnostics for Cancer: A Systematic Review.](#)

Liu S, Tan DS, Graves N, **Chacko AM.**

doi: [10.1007/s40258-023-00833-5](https://doi.org/10.1007/s40258-023-00833-5).

[A machine learning model to predict the need for conversion of operative approach in patients undergoing colectomy for neoplasm.](#)

Guidolin K, Ng D, Zorigtbaatar A, Chadi S, Quereshey F.

doi: [10.1002/cnr2.1917](https://doi.org/10.1002/cnr2.1917).

About my research

Each month we highlight the work of one or more Eurekians.

About my research: [Wei Li](#), VPD Heart and Lung Research Institute, Department of Medicine, University of Cambridge

What's your area of research? We study the regulation of transforming growth factor-beta and bone morphogenetic protein signalling complexes using structural biology and cellular signalling assays, with a goal to target such complexes for therapeutic application.

What translational research questions does your work try to address? The signalling complexes we are studying contain many mutations found in human vascular disorders, such as pulmonary arterial hypertension (PAH) and hereditary haemorrhagic telangiectasia (HHT). Through our research, we hope to provide better understanding of how these mutations contribute to the pathogenesis of PAH and HHT, and come up with novel therapeutics that can restore the functions of the mutated receptors.

What excites you most about your research? What excites me most about my research is the potential of developing novel drugs to benefit patients because we are focusing on an important pathway that is validated by human genetics.

What's the biggest challenge that you face? Securing enough translational funding to develop an idea into an initial asset.

What does it mean to you to be a Eurekian? First and foremost, it reminds me of the most amazing experience at the International Certificate Course in Ortgia. Being a Eurekian means the opportunity to get acquainted and connected with some amazing mentors and other Eurekians, as well as a sense of duty to teach and mentor the next generation of translational researchers.





About my research: [Xiao Huang](#), Drexel University

What's your area of research: Therapeutic T-cell engineering and modulation using functional biomaterials

What translational research questions does your work try to address?

Can we boost the function of T cells in the treatment of various immune-associated diseases using translatable engineering approaches ex vivo or in vivo?

What excites you most about your research? The precision engineering control shows a direct impact on T cell phenotype and functions, which can

be meaningful for both basic science and therapeutic designs

What's the biggest challenge that you face? Right now, matching with clinicians to tackle concrete biomedical challenges is an unmet need. Also, finding sufficient funding to support expensive multidisciplinary research is a major challenge.

What does it mean to you to be a Eurekaian? Being a Eurekaian reminds me of my original interest in applied science and translational medicine, which encouraged me to think more about important questions or challenges from clinics and the patient need. The Eurekaian family also provides an important network and resources for me to approach my goal in translational medicine.



Colorful nets (image from Pixabay).

And finally.....some trivia. Ann-Marie noted that face-to-face meetings might make the Eureka network more connected; networking is often cited as a key advantage of meeting in person. The word 'network' (a noun and a verb) is a compound of the words 'net' and 'work' that was first used in the 1500s to refer to a net-like arrangement of threads, and then in the 1800s to refer to interlocking transport systems such as rivers and canals. But in what year was the word first used to refer to an interconnected group of people?

Here's the answer provided by the [Online Etymology Dictionary](#).

Thank you for reading!

[Charlotte Harrison](#)

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Later this month I'm helping run an in-person conference – and I'm now thinking of ways to improve the networking!