

# SCOPE

LATEST NEWS & EVENTS @ NMRC

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## Events

## A Celebration of Science, Collaboration and Talent

### NMRC Awards Ceremony and Research Symposium 2025

#### Overseas speakers

From left to right:  
Profs Steven Hoffman,  
Guang-Zhong Yang, Michael Merson,  
Sir John Savill, John Lavis and  
Wong Tien Yin.



Group photo of StAR Investigator Award and CSA recipients with Guest-of-Honour, Permanent Secretary (Policy and Development) of MOH, MOH's Senior Management and NMRC Chairman and NMRC Executive Director.

The NMRC Awards Ceremony and Research Symposium 2025 was held on 28 and 29 May at PARKROYAL COLLECTION Marina Bay, Singapore, drawing over 450 attendees. The 1.5-day event celebrated excellence and sparked vibrant discussions on the future of medical research in Singapore.

A highlight of the event was the recognition of 84 outstanding individuals who received the 2024 NMRC Talent Awards. These awardees represent the talent pool driving healthcare innovation and advancing Singapore's research ambitions.

NMRC Chairman, Prof Ranga Krishnan, who delivered the welcome address, outlined NMRC's achievements and efforts to continue developing clinician scientist talent in Singapore. Guest-of-Honour, Ms Lai Wei Lin, the Ministry of Health (MOH)'s Permanent Secretary (Policy and Development) said that MOH and NMRC will ensure that there are robust plans for talent and capability development in Research, Innovation and Enterprise (RIE) 2030, which starts from FY26. She also announced new projects under the NMRC Open Fund-Large Collaborative Grant (OF-LCG) and attributed the

success of NMRC funding schemes to the contributions of the stewards and leaders in our research ecosystem. In particular, Profs Ranga Krishnan and Edward Holmes were conferred the inaugural NMRC Distinguished Contributor Award.

The plenary sessions featured 3 distinguished speakers – Profs Steven Hoffman (Wellcome Trust), Guang-Zhong Yang (Institute of Medical Robotics, Shanghai Jiao Tong University), and

**There are many success factors for building a thriving research ecosystem. Funding is of course key. So is infrastructure, such as having the necessary space and equipment, and enablers such as access to data, and so on. However, talent, in my view, is the keymost success factor."**



**Ms Lai Wei Lin**  
Permanent Secretary  
(Policy and Development)  
Ministry of Health

Michael Merson (Duke University). Overseas Council members – Profs Sir John Savill, John Lavis and Wong Tien Yin – spoke alongside local experts at the concurrent sessions. The sessions explored key themes such as research translation, medical entrepreneurship and population health, and discussed the research journeys of clinician scientists, investigators and innovators.

The NMRC Office thanks all awardees, speakers, exhibitors and delegates for their support. The full programme is available in the e-programme booklet at [NMRC Events Webpage](#).

**Many NMRC-supported research grants, programmes and people have made a real difference in changing health practice, influencing health policies and impacting the health of our population. These achievements represent the culmination of sustained support since the launch of Singapore's Biomedical Sciences initiative in 2000, backed by government, institutional leadership and made possible by our clinical and research communities."**



**Prof Ranga Krishnan**  
Chairman, NMRC



## Meet the Clinician Scientist

# Early Hope, Lasting Impact: Treating Genetic Disease Before Birth

2024 National Outstanding Clinician Scientist Award Winner



We spoke to Prof Jerry Chan, a leading figure in reproductive medicine and fetal therapy in Singapore. As Senior Consultant at the Department of Reproductive Medicine, KK Women's and Children's Hospital and a tenured Professor at Duke-NUS Medical School, Prof Chan's research is revolutionising how genetic diseases are treated, even before birth. Fresh from receiving the 2024 National Outstanding Clinician Scientist Award under the National Medical Excellence Awards (NMEA), the Director of KK Research Centre and SingHealth Duke-NUS Maternal and Child Health Research Institute shares with us his journey from medical school in Dublin to pioneering fetal therapy research in Singapore.



### What drew you to Obstetrics and Gynaecology and research?

During my medical school rotation, I was captivated by the fascinating process of human reproduction. What struck me was the number of unknowns in the field and how many things could go wrong, particularly with genetic diseases that affect up to 5% of pregnancies. Back then, parents expecting babies with genetic conditions had only two unfortunate options: live with the problem or terminate the pregnancy. This reality drove me to pursue scientific training in stem cell science and gene therapy at Imperial College, leading to the establishment of the Experimental Fetal Medicine Group 19 years ago.



### Your research focuses on intrauterine gene therapy. What's your current project about?

Under the sponsorship of the NMRC Singapore Translational Research (STaR) Investigator Award, we're exploring two exciting technologies for fetal molecular therapy. We're developing new nanoparticles to deliver treatments without the unwanted effects of viral delivery systems. We're also using advanced gene editing technologies to correct faulty genetic code in inherited diseases. This approach promises to be safer and more effective than ever before, bringing us closer to treating genetic diseases before birth.



### What keeps you motivated after two decades in this field?

It's a combination of deep curiosity about how our bodies work, the beauty of scientific discoveries, and the opportunity to transform patient care. One of our proudest achievements was developing the world's first pre- and post-natal stem cell treatment for brittle bone disease, in collaboration with Karolinska Institute colleagues. We've progressed from concept through laboratory investigations to treating patients in Singapore with pre- and post-natal stem cell therapy.



### What other initiatives are you working on?

Beyond fetal molecular therapies, I'm developing a new model of care called Healthy Early Life Moments in Singapore (HELMS). This initiative addresses 21st century challenges in metabolic and mental health by intervening in women's health from preconception through pregnancy and into post-natal stages.



### What advice do you have for aspiring Clinician Scientists?

Three key things: Stay curious, stay the course, and find good mentors in both science and life. I've benefitted tremendously from having impactful mentors throughout my career, and I recognise how crucial this support is for success in the field.

### At a Glance:

#### Prof Jerry Chan's Research Journey



#### Key Achievements

- World's first pre- and post-natal stem cell treatment for brittle bone disease
- Three consecutive NMRC Clinician Scientist Awards (2010-2023)
- NMRC Singapore Translational Research (STaR) Investigator Award (2023-2028)
- NMEA National Outstanding Clinician Scientist Award 2024



#### Current Focus

- Developing nanoparticle-based gene therapy for genetic diseases
- Leading the HELMS initiative for maternal and child health
- Directing the Singapore OBGYN Research Network (SORN)







## Research Highlights

# Innovation in Sight

## Pushing Frontiers in AMD Research

A team of scientists and clinicians is transforming our understanding and treatment of age-related macular degeneration (AMD), one of the leading causes of blindness among elderly people across Asia-Pacific and globally.

Phase 2 of the Translational Asian Age-related macular degeneration Programme (TAAP-2) brings together multidisciplinary expertise from public healthcare, academic and research institutions. The team includes senior Principal Investigators (PIs) who are widely recognised as AMD leaders, along with younger clinician-scientists.

Together, their overarching goal is to reduce blindness from AMD. Since TAAP's inception in 2018, the programme has made significant progress in addressing unmet clinical needs and scientific gaps. This includes developing an innovative, non-invasive triple-input polarisation-sensitive optical coherence tomography (PS-OCT) system, which allows advanced tissue characterisation and enables early detection of AMD; identifying potential novel therapy targeting LRG1, a novel multifunctional molecule crucial to AMD development; and contributing to guidelines that shape clinical practices related to neovascular AMD (nAMD) and Polypoidal Choroidal Vasculopathy management.

TAAP-2 will build on the success of Phase 1 and extend its research scope to earlier stages of AMD, as well as address additional chronic pathogenic processes in disease progression.



Prof Gemmy Cheung conducting an eye examination on a patient.



Group photo of the Theme PIs. From left to right: A/Prof Low Lian Leng, Asst Prof Fan Qiao, A/Prof Jacqueline Chua, Prof Gemmy Cheung, A/Prof Su Xinyi, Asst Prof Tham Yih Chung.

Not in photo: A/Prof Wang Xiaomeng and Prof Leopold Schmetterer.

### 8 Theme PIs are leading the team across 4 research themes:

#### Theme 1

**Early Diagnosis** aims to improve understanding of risk factors and develop screening protocols to identify at-risk populations. Early diagnosis of AMD will lead to improved cost-effectiveness of intervention.

- Prof Gemmy Cheung, Singapore Eye Research Institute (SERI)/Singapore National Eye Centre (SNEC)/Duke-NUS Medical School (Duke-NUS)
- Asst Prof Tham Yih Chung, National University of Singapore (NUS)/SERI/Duke-NUS
- A/Prof Low Lian Leng, SingHealth/Duke-NUS

#### Theme 2

**Personalised Therapy** addresses the heterogeneity in phenotypes and treatment responses. With multiple intravitreal therapeutic agents becoming available, the team's biomarker studies will develop guidelines for personalised therapy.

- Prof Gemmy Cheung, SERI/SNEC/Duke-NUS
- Asst Prof Fan Qiao, Duke-NUS

#### Theme 3

**Develop Cutting-Edge Diagnostics** aims to advance the precision and accessibility of AMD diagnostics through novel imaging technologies.

- Prof Leopold Schmetterer, SERI/Nanyang Technological University/Duke-NUS/Medical University of Vienna
- A/Prof Jacqueline Chua, SERI/SNEC/Duke-NUS

#### Theme 4

**Novel Targets and Pathways and New Treatments** focuses on understanding novel pathophysiological mechanism, developing novel therapies to address unmet medical needs, and identifying reliable biomarkers for disease prediction to improve the management of nAMD.

- A/Prof Wang Xiaomeng, SERI/Duke-NUS/Agency for Science, Technology and Research (A\*STAR)
- A/Prof Su Xinyi, A\*STAR/National University Health System/NUS

The team is further backed by strong scientific advisory from Prof Usha Chakravarthy, Queen's University Belfast, who is also Senior Scientific Advisor at SERI and SNEC.

**Early diagnosis can help preserve more vision by preventing permanent tissue damage. If you experience symptoms like visual distortion (such as straight lines appearing wavy), or dark patches in your central vision, seek medical attention promptly.**



Exclusive

# From Seedlings to Forest

Prof Ranga Krishnan has Nurtured a Thriving Ecosystem

In her opening address at the NMRC Awards Ceremony and Research Symposium 2025, Ms Lai Wei Lin, Permanent Secretary (Policy and Development), Ministry of Health announced that Prof Ranga will step down as Chairman of NMRC in end July. Taking over this role is Prof Sir John Savill, Executive Director of the Melbourne Academic Centre for Health who is also a Council member.



As Prof Ranga Krishnan concludes his transformative 12-year tenure as Chairman of NMRC, we reflect on his extraordinary journey and lasting impact on Singapore's medical research landscape.

His ability to catalyse change has been nothing short of inspiring. Reflecting on his tenure, which began after more than 4 years as a Council member, Prof Ranga used the analogy of arboriculture.

"The seeds were planted in 2000 [when Singapore began the biomedical sciences push] and the first seedlings started to grow. We had a set of trees by 2020 and now we have a forest," he said.

Describing his role modestly, he said, "I was more like a facilitator than the person actually doing the job. My role was much more of a catalyst here and there, as the person who encouraged and mentored people to get things moving."

## A VISIONARY JOURNEY

When he took over at the helm in 2013, Prof Ranga had to overcome the challenges of developing a research culture. Back then, Singapore's clinical research

ecosystem was still in its infancy, with only a small number of physician scientists participating in research.

He guided NMRC through multiple phases of growth, from building research talent and infrastructure to enhancing funding schemes and promoting collaboration. His work laid the groundwork for population health strategies, a focus area he believes will secure Singapore's position as a global leader in medical research.

## ENDURING IMPACT

When asked what he saw was the most enduring impact of his stint as Chairman, "I would say, not me, but NMRC," he emphasises. "Its most enduring impact is not just its focus on research. It grew something in healthcare, that is, by getting more and more young people to participate in research, ask the questions, build new things and help improve lives."

His fondest memories reflect his dedication to this cultural change. "My fondest memories are talking to the people who just got awarded grants, seeing their happy faces, seeing them build their careers, working with them later, and seeing how well their programmes are

coming every time they talk about it. That makes me really excited and happy across the board, and there are so many of them," he enthuses.

## A GRATEFUL GOODBYE

As Prof Ranga steps away, he leaves a message of hope and resilience for those continuing this journey. "Keep the North Star of improving population health outcomes in sight," he advises. "There are going to be times when it's hard, but as long as you keep the focus of why you're doing it, hard times vanish."

The NMRC Office will miss his guidance, his mentorship and the camaraderie he brought to the team. When asked what he would miss most, Prof Ranga said, "It's the people I will miss the most.... The low turnover at NMRC Office speaks volumes about its culture. People genuinely love working here because they believe in the mission and value their colleagues."

Prof Ranga's visionary leadership has left NMRC on a firm foundation, with a strong pipeline of talent and boundless opportunities on the horizon. Thank you, Prof Ranga, for an inspiring chapter in NMRC's story.



## NMRC'S RIE2015-2025 Milestones

	RIE2015 (FY11-FY15) As at 31 Mar 2016	RIE2020 (FY16-FY20) As at 31 Mar 2021	RIE2025 (FY21-FY25) As at 31 Mar 2025
<b>Funding Committed</b>	SGD 1,370.20 mil	SGD 1,559.30 mil	SGD 2,070.48 mil
<b>No. of Active Nationally Funded Clinician Scientists</b>	57	101	155