



## What's New?



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## Strengthening Partnerships, Uniting Expertise

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**CONGRATULATIONS!**

**OPEN FUND - YOUNG INDIVIDUAL RESEARCH GRANT**

Dr. Yang Li, CSI Special Fellow

Awarded by the National Medical Research Council (NMRC)

**CONGRATULATIONS ON GRANT AWARD!**

*for project titled*

Decoding Cellular Adaptive Immunity through AI driven Modeling and Design of TCR-pMHC Interactions

Dr. Lee Jun Sheng

NATIONAL RESEARCH FOUNDATION COMPETITIVE RESEARCH PROGRAMME (NRF-CRP)

## New Collaborations, Familiar Faces..

CSI Science Exchange

Tay Shang Cong, Norbert

February 9, 2026

Postdoctoral Fellow, University of Michigan & Visiting Research Fellow, CSI Singapore

**CSI SCIENCE EXCHANGE**

with Dr. Norbert Tay

Ideas in Exchange: CSI Singapore x IIT Madras Student Visit

## Team CSI Strides Together: 110km in 12 Hours!



We had so much fun training for the event that we decided to continue with run sessions. Join us on most Thursdays, 6:30pm at the NUS Track! Fill in the Google Form to connect with members of CSI Run Club: Tempo Thursday!



## Upcoming Events

**24** CSI Research Meeting  
24 April, 4pm - 5pm  
NUS

**08** CSI Research Meeting  
8 May, 4pm - 5pm  
NUS

**FRONTIERS in Cancer Science 2026**

Join us and learn from the foremost cancer experts as they share their new findings.

Conference Partner:  
**AAGR** American Association for Cancer Research

Scan QR code for updates; registration & abstract submission

**OPENS 4 MAY**

**11-13 NOV**

Early-bird registration ends on **14 Sep 2026**

**ONE FARRER HOTEL**  
1 Farrer Park Station Rd, Singapore 217562

Oral & Poster abstract submission ends on **13 July 2026**

## Research Highlights

### Learned Conformational Space and Pharmacophore into Molecular Foundational Model (Advanced Science, Jan 2026)

A major challenge in AI-driven drug discovery is translating molecular analysis into meaningful drug design. In a study published in Advanced Science, Senior CSI Principal Investigator **Prof. Yang Zhang** and collaborators developed 'Ouroboros', a molecular foundation model that unifies molecular understanding and generation within a single framework.

Ouroboros captures both the 3D behaviour of molecules and their pharmacological similarities, enabling it to identify relationships between structurally different compounds. Its key innovation is a reconstruction learning approach that converts learned representations back into full chemical structures, allowing direct optimisation and design of new molecules.

The model performs strongly across applications such as virtual screening, multi-target drug design, and ADMET prediction. By improving early candidate selection and reducing trial-and-error, Ouroboros could accelerate drug discovery and lower costs, with future work focused on target-guided design and genome-scale applications.

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### Pembrolizumab Plus Lenvatinib in Recurrent Gynaecological Clear Cell Carcinoma (LARA): A Multicentre, Single-arm, Phase 2 Trial (The LANCET Oncology, Feb 2026)

A multinational study led by CSI Principal Investigator **A/Prof. David Tan** and collaborators from Singapore and South Korea, has demonstrated encouraging results for patients with recurrent clear cell ovarian and endometrial cancers—rare and aggressive subtypes that often respond poorly to standard treatments.

Published in The Lancet Oncology, the Phase 2 LARA trial found that combining immunotherapy (pembrolizumab) with targeted therapy (lenvatinib) achieved a 40% tumour response rate, with manageable side effects. This dual-pathway approach enhances the immune system's ability to attack cancer cells while disrupting tumour growth signals.

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