



N2CR INSIGHTS

THE QUARTERLY NEWSLETTER OF N2CR

Early Cancer Intervention from Laboratory Discoveries to the Community

13 - 14 May 2024 | NUS MD6 Lecture Theatre 35



Latest News

A big thank you to everyone who attended the Early Cancer Intervention – From Laboratory Discoveries to the Community Symposium 2024 on 13 – 14 May 2024 at NUS.

Our deep gratitude to both our local and international speakers who spoke on pertinent topics ranging from novel methods for more painless cancer detection to rethinking of cancer risk analysis for better community screening and resource allocation. An exceptionally inspiring and thought-provoking collection of talks that opens up exciting new avenues for future healthcare changes and scientific collaboration.

Our heartfelt thanks to Prof Tan Chorh Chuan, the Guest of Honour, for gracing our event.

Let's journey onward to continue to advance early cancer intervention strategies in Singapore!



INSPIRING YOUNG MINDS

A Day in the World of Cancer Research and Healthcare

EDUCATIONAL OUTREACH 27 MAY 2024

On 27 May, N2CR hosted over 40 students from 3 secondary schools for a field day to learn about what scientists and clinicians do in cancer research. The students were privy to talks by our N2CR members, PhD students, Bio Safety Lab 3 colleagues; and got to tour the Anatomy Museum, RNA Lab and the clinical facilities at NCIS.

This programme was developed in collaboration with NCIS and the MOE Partnerships and Engagement Office.



Hear what our fellow educators had to say!

HERE'S WHAT'S UP!

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Latest News

Cancer Researchers' Stories

N2CR's new series is back with 2 interviews with our esteemed and highly talented members.

Click the images to watch!



Dr Derrick Ong talks about his his current research on glioblastomas and how he balances the demands of life and work.

Prof Shazib Pervaiz talks about his new paper on mutant KRAS and shares some pearls of wisdom from his 30 years of research in biology.



Diana Koh Breakthroughs in Cancer Learning Series

Despite the rainy Saturday morning on May 4, 2024, we extend our gratitude to all who attended the Learning Series at Botanic Gardens! The Diana Koh Breakthroughs in Cancer Learning Series offers informative talks on cancer research designed for the general public. These sessions will cover cancer concepts and screening in easy-to-understand terms to demystify the impact of cancer. N2CR director Professor Ashok Venkitaraman spoke on his research in breast cancer while N2CR member Dr Anand Jeyasekharan shared about his work on lymphoma. Prizes were also presented to young scientists doing promising cancer research. The Diana Koh Young Innovator Prize was given out to PhD student Chuah You Heng from the Department of Physiology and Dr Kong Li Ren from the Department of Pharmacology; while the Diana Koh Young Innovator Grant was awarded to Dr Elayanambi Sundaramoorthy from Cancer Science Institute, Singapore.



Dr Jeyasekharan



Winner: Dr Sundaramoorthy



Winner: You Heng



Winner: Dr Kong

Welcome to our new N2CR members!



Dr Shawn Lee
Department of Paediatrics, NUS



Dr Mervyn Lim
Department of Pharmacology, NUS



Dr Cinnie Yentia Soekojo
Department of Medicine, NUS



Dr Elayanambi Sundaramoorthy
CSI Singapore, NUS



Dr Yeong Poh Sheng
Office of Academic Medicine, DUKE-NUS Medical School

Latest News

NMRC Talent Awards 2023 & 2024

(Jan and July 2023 Call)

The NMRC award recognises the achievements and contributions of outstanding clinicians and researchers whose work plays a significant part in developing breakthroughs that will positively impact the lives of patients.



Prof Chng Wee Joo
Vice President
Biomedical Sciences Research, ODPRT NUS

Singapore Translational Research Investigator
(STaR) Award 2024
(July 2023 Call)



Dr Sanjay de Mel
Senior Consultant
Dept of Haematology-Oncology, NCIS

Transition Award 2024
(Jan 2023 Call)

N2CR Invited Speaker Seminar

With Prof Marc Diederich!

On 21 June 2024, we had the pleasure of hosting Prof Marc Diederich from the Seoul National University on Zoom as he gave a talk on mitochondrial disruption and how metabolic alterations lead to immunogenic cell death in myeloid leukemia.



Research News (Apr - Jun 2024)

N2CR Researchers Uncover a Missing Link Between Poor diet and Higher Cancer Risk

(Cell, Kong L.R, Gupta K., Wu A.J. *et al.*)

N2CR researchers led by Prof Ashok Venkitaraman and Dr Kong Li Ren have unearthed new findings which may help explain the connection between cancer risk and poor diet, as well as common diseases like diabetes, which arise from poor diet. The insights gained from this study hold promise for advancing cancer prevention strategies aimed at promoting healthy ageing.



[Read More](#)

METTL8 Links mt-tRNA m3C Modification to the HIF1 α /RTK/Akt Axis to Sustain GBM Stemness and Tumorigenicity

(Cell death and disease, Woon B.L, Chuah Y.H., Yoon J. *et al.*)



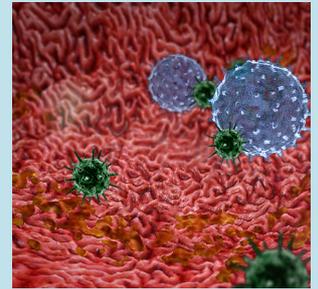
Glioblastoma is the most common and lethal form of adult brain cancer. The presence of cancer stem cells (so-called glioma stem cells) within the tumour makes it difficult to eradicate glioblastoma as these cells can persist indefinitely and resist conventional therapies. In this paper, Dr Derrick Ong and his team discovered that a protein named methyltransferase 8 (METTL8) is involved in the 3-methylcytosine modification of specific mitochondrial-tRNAs, which indirectly promotes mitochondrial translation and respiration. Surprisingly, the METTL8-mediated mitochondrial respiration influences the hypoxia-regulatory cancer pathway, which helps maintain glioblastoma hallmarks. This finding has important translational value because it may explain why drugs targeting the hypoxia pathway fail to eradicate this cancer clinically. Targeting the METTL8 protein could be a new therapeutic strategy to eliminate glioblastoma.

[Read More](#)

Research News (Apr - Jun 2024)

Macrophage Signatures that Help Predict Lymphoma Patient's Survival Rate(Nature Communications, Min L., Giorgio B., Sridhar S. *et al.*)

Macrophages are "big eaters" in our body; they are immune cells that engulf and kill invading organisms and cancer cells. Macrophages are present in the living ecosystem of many types of cancer. Using digital imaging, bioinformatics, and machine learning techniques, research led by N2CR member, Dr Anand Jeyasekharan, discovered 6 different macrophage signatures (MacroSigs) that can help distinguish types of macrophages in normal lymph nodes and diffuse large B-cell lymphoma (DLBCL), a tumour arising from our lymph nodes. This groundbreaking discovery helps doctors understand the evolution of this disease and how some DLBCL tumours relapse after chemotherapy.

[Read More](#)**Next-Generation Sequencing in Metastatic Breast Cancer: A Game Changer for Asian Patients**(Frontiers in Oncology, Walsh R.J., Ong R., Seng W.C. *et al.*)

This study, led by N2CR members Dr Joline Lim and A/Prof David Tan, looks at the use of next-generation sequencing (NGS) for molecular profiling of metastatic breast cancer (MBC) in Asian patients. NGS identified actionable mutations, enabling targeted therapy. The PI3K/AKT/PTEN pathway was most altered. Matched treatment improved progression-free survival and overall survival. The study concludes that broad-panel NGS in MBC is feasible and beneficial.

[Read More](#)

Upcoming Events

HAPPY HOUR

Organised by
NUHS Research Office

A networking event for
NUSMed Faculty, Head of
Core Facilities and NUHS
Clinicians!

Friday, 26 July 2024
CeLS Staff Lounge Level 3
5pm-7pm

REGISTER NOW

N2CR Pathology Clinic

As part of the N2CR Site-Specific Resources services, we are conducting a pathology clinic to help researchers in the following areas:

1. Identification of Histopathological features
2. Staining Optimization
3. Histomorphological Analysis

For queries, please contact n2cr@nus.edu.sg

[LEARN MORE](#)

Date:
24 July 2024
3 - 5 pm

Spatial Analytics Room,
level 12 North
NUS MD6