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Duke-NUS/金沢大学がん進展制御研究所 ジョイントシンポジウム  
～学際領域展開ハブ形成プログラム 国際シンポジウム～

令和6年3月4日に、シンガポールにて Duke-NUS Medical School とのジョイントシンポジウムを開催しました。Duke-NUS と本研究所のジョイントシンポジウムは、平成27年4月に金沢大学で開催して以来、5回目を数え、シンガポールでの開催は平成28年以来の2回目です。Duke-NUS からは David Virshup 教授が率いる Cancer and Stem Cell Biology 部門所属の PI や博士研究員、大学院生、そしてシンガポール国立がんセンター (NCCS) の研究者らが参加し、本研究所からは平尾敦先生、後藤典子先生、そして大島正伸の3名が参加しました。さらに今回は、本研究所が主幹として採択された文部科学省「学際領域展開ハブ形成プログラム」の参画研究機関から、河岡慎平先生（東北大・加齢医学研究所）、平山明由先生（慶應義塾大・先端生命科学研究所）、高倉伸幸先生（大阪大・微生物病研究所）も参加され、総勢70名を超える大変盛況なシンポジウムとなりました。発表内容は、がんの分子生物学や基礎生物研究、臨床研究、そして代謝、悪液質など広範にわたり、シンガポール側から Patrick Tan 博士をはじめ7名、日本側からは上記の6名、総勢13名が最新の知見について口演し、とても活発な議論が展開しました。最後に Duke-NUS/NCCS の Bin Tean Teh 博士の講評で、大変有意義なシンポジウムの1日が締めくくられました。

翌日3月5日には、日本側の参加者が別れて、Duke-NUS、NCCS の PI 研究者や大学院生との個別ディスカッションが企画され、初日に続いてさらに突っ込んだ研究内容について意見交換しました。私自身は、Virshup 研究室の大学院生らと Wnt 受容体の新しい制御機構について、そして Teh 研究室のメンバーとは胆管がん発生における遺伝子発現制御について、それぞれ最新のデータを元にディスカッションする機会が得られ、密度の高い研究交流の時間を過ごしました。また同日午後には、NCCS の新しい施設を訪問し、最新式の放射線治療施設や、イメージング部門などの研究室、そして屋上を利用したユニークな循環型の食物自給設備など、NCCS による最先端の取り組みを見学する機会がありました。

短期間のシンガポール滞在でしたが、アジア地域から国際的に卓越した研究成果を発信し続ける Duke-NUS/NCCS との研究交流の機会は貴重であり、我々の研究発展にも大きな力となると考えられます。将来的に、若手の先生方にバトンタッチしながら Duke-NUS/NCCS との交流を続けて行くことが重要と思います。最後に、今回のシンガポール訪問に際して、我々の旅程から、シンポジウム、研究交流会など全ての準備で Duke-NUS の板鼻康至先生に大変お世話になりました。この場を借りて御礼申し上げます。ありがとうございました。

令和6年3月15日

大島 正伸



Duke-NUSとのジョイントシンポジウム会場の風景



日本側演者とDavid Virshup博士（中央）  
Bin Tean Teh博士（右端）



平尾先生（金沢大）



後藤先生（金沢大）



平山先生（慶應大）



河岡先生（東北大）



高倉先生（大阪大）



Patrick Tan博士



David Virshup博士



Bin Tean Teh博士



活発なディスカッション風景



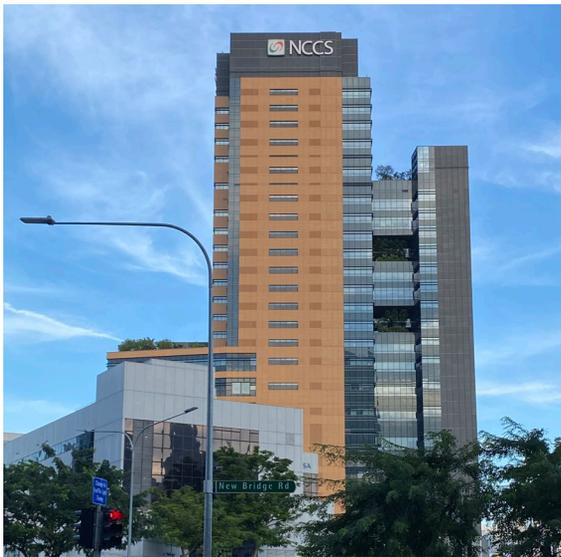
シンポジウム会場前での昼食



若手研究者の研究発表会（3月5日）



Duke-NUS大学院生用のVR教材開発室



NCCSの新棟（左）



放射線照射施設正面



NCCSの見学を終えて  
（中央、板鼻先生）



NCCS最上階からシンガポールの風景

## **Duke-NUS/NCCS & Kanazawa University CRI Joint Symposium**

On March 4, 2024, the Duke-NUS/NCCS & Kanazawa University CRI Joint Symposium was held in Singapore. The joint symposium between Duke-NUS and CRI marked its fifth occurrence since its first conference in April 2015 at Kanazawa University, and this was the second time held in Singapore since 2016. From Duke-NUS, principal investigators, postdocs, and graduate students of the Cancer and Stem Cell Biology Research Program led by Prof. David Virshup participated in the Symposium, and researchers from the National Cancer Centre Singapore (NCCS) also joined. From CRI, Kanazawa University, Professors HIRAO Atsushi, OSHIMA Masanobu, and GOTOH Noriko participated. In addition, three researchers (Assoc. Prof. KAWAOKA Shinpei, Tohoku University; Assoc. Prof. HIRAYAMA Akiyoshi, Keio University; and Prof. TAKAKURA Nobuyuki, Osaka University) attended the meeting as representatives of participating institutions of the "MEXT Promotion of Development of a Joint Usage/Research System Project: Coalition of Universities for Research Excellence Program (CURE)," in which the CRI served as the main organizer. The whole day program of the Joint Symposium was an exciting and successful event with a total attendance exceeding 70 participants. The presentations covered a wide range of cancer-related topics, including the molecular biology of cancer, clinical studies, metabolism, and cachexia. Thirteen speakers, including Prof. Patrick Tan and six other outstanding researchers from Singapore, along with the aforementioned six researchers from Japan, gave talks on their cutting-edge research insights, leading to active discussions. Prof. Bin Tean Teh from Duke-NUS/NCCS provided insightful closing remarks, bringing a fulfilling conclusion to the symposium.

On the following day, March 5th, the Japanese participants split off for individual discussions with PI researchers and graduate students from Duke-NUS and NCCS. These sessions provided a great opportunity to discuss more deeply about individual topics. I personally had the opportunity to discuss the novel mechanisms of Wnt receptors with graduate students from Prof. Virshup's lab, and gene expression control in the bile duct cancer with members of Prof. Teh's lab, both based on the latest data, giving us a very intensive time of research exchange. Later in the afternoon of the day, we visited the new facilities at NCCS. We had the chance to visit advanced facilities such as proton therapy centre, imaging laboratories, and unique circular food self-sufficiency systems utilizing the rooftop, which are NCCS's pioneering and unique challenges.

We believe that the opportunity of research exchange with Duke-NUS/NCCS that performs high-quality science and leads the related research field of the world from the Asian country, is invaluable and greatly contributes to our research activity. Therefore, it is important to continue such scientific exchanges with Duke-NUS/NCCS while passing the baton to young researchers in the future. Finally, we extend our heartfelt gratitude to Assoc. Prof. ITAHANA Koji of Duke-NUS for his dedicated support and coordination of the Joint Symposium. Thank you very much!

(Writer: OSHIMA Masanobu, March 15, 2024)



The Scenery at the venue



Japanese speakers, Prof. David Virshup (center), and Prof. Bin Tean Teh (right)



Prof. HIRAO (Kanazawa Uni.)



Prof. Gotoh (Kanazawa Uni.)



Assoc. Prof. HIRAYAMA (Keio Uni.)



Assoc. Prof. KAWAOKA (Tohoku Uni.)



Prof. TAKAKURA (Osaka Uni.)



Prof. Patrick Tan



Prof. David Virshup



Prof. Bin Tean Teh



Active discussion at the venue



Lunch view



Research presentations by young researchers (March 5th)



VR teaching-material development room for Duke-NUS graduate students



New building of NCCS (left)



Front of the Proton Therapy Centre



After the facility tour at NCCS (Assoc. Prof. ITAHANA is the center)



View from the top floor of NCCS

# Duke-NUS/NCCS & Kanazawa University CRI Joint Symposium

in collaboration with "MEXT Promotion of Development of a Joint Usage/Research System Project: Coalition of Universities for Research Excellence Program (CURE)



**Date & Time:**  
March 4<sup>th</sup>, 2024 (Monday)  
9:30 am – 6:30pm

**Venue:**  
Amphitheatre, Level 2  
Duke-NUS Medical School

## Speakers:

**Masanobu OSHIMA**, Kanazawa University Cancer Progression Research Institute  
*Cluster Migration and Polyclonal Metastasis of Intestinal Tumor Cells*

**Atsushi HIRAO**, Kanazawa University Cancer Progression Research Institute  
*Critical Roles of Metabolic and Immune Responses in Hematopoietic Stem Cell Homeostasis*

**Noriko GOTOH**, Kanazawa University Cancer Progression Research Institute  
*Heterogenous Breast Cancer Stem Cells Sustain in Primary and Metastatic Cancer Stem Cell Niches*

**Nobuyuki TAKAKURA**, Osaka University Research Institute for Microbial Diseases  
*Endothelial Stem Cell Population in the Pre-existing Blood Vessels for Health and Diseases*

**Akiyoshi HIRAYAMA**, Keio University Institute for Advanced Biosciences  
*Metabolomic Profiling of Cancer-Derived Extracellular Vesicles Using Highly Sensitive Metabolome Analysis*

**Shinpei KAWAOKA**, Tohoku University Institute of Aging Medicine  
*Why Are Cancers So Deadly? Cancer Cachexia*

**David VIRSHUP**, Duke-NUS Medical School  
*Wnt-regulated Cholesterol Precursors Control Cell Fate Decisions*

**Patrick TAN**, Duke-NUS Medical School  
*Spatiotemporal Genomic Profiles of Gastric Premalignancy*

**Gopalakrishna IYER**, National Cancer Centre Singapore  
*Novel-ish Approaches to Target Head and Neck Cancers—Old Dog/ New Tricks*

**Jason CHAN**, National Cancer Centre Singapore  
*Pan-omic Interrogation of Rare Cancers*

**WANG Xiaomeng**, Duke-NUS Medical School  
*Targeting LRG1 to Control Tumour Growth and Metastasis*

**TANG Hong-Wen**, Duke-NUS Medical School  
*Skeletal Muscle Regeneration – Leads from Cross-species Analysis*

**ONG Choon Kiat**, National Cancer Centre Singapore  
*An Update on Potential Biomarkers and Novel Treatment Strategies for Natural Killer/ T-Cell Lymphoma*

All are welcome. Lunch and coffee breaks are included.

Any question, please contact:  
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