TEMS

TLL External Monthly Seminar

TEMASEK LIFESCIENCES LABORATORY

ALL ARE WELCOME

*Scan for address

3 August 2023 (Thursday), 3pm
The Auditorium (Level 1)

Hosted by: Dr Cheong Shen-Yi, Ian

Cell-free and micro-dissected biomarkers for nasopharyngeal cancer screening and treatment



Dr Joshua Tay Kai Xun
National University of Singapore, Singapore

Nasopharyngeal cancer (NPC) is an EBV-driven epithelial cancer endemic to Southeast Asia and other parts of the world. Early detection through biomarker-directed screening identifies early disease and improves prognosis. The high recurrence rate of NPC tumors suggests significant tumor heterogeneity influencing response to current treatment modalities. This seminar will cover our experience with NPC screening in Singapore, as well as the role of EBV polymorphisms and gene expression profiles in defining biological subtypes of NPC for personalised care.

Dr Joshua Tay an Assistant Professor at the National University of Singapore and a Ear, Nose & Throat surgeon at the National University Hospital. He received his PhD training in Cancer Biology from Stanford University and leads a cancer genomics laboratory, with special expertise in micro-dissected gene expression profiling from archival tissue specimens and analysis of biomarkers for precision medicine and screening.

Recent Publications:

1. **Tay JK**, Zhu C, Shin JH, Zhu SX, Varma S, Foley JW, Vennam S, Yip YL, Goh CK, Wang Y, Loh KS, Tsao SW, Le QT, Sunwoo JB, West RB. The microdissected gene expression landscape of nasopharyngeal cancer reveals vulnerabilities in FGF and noncanonical NF-κB signaling. Sci Adv. 2022 Apr 8;8(14):eabh2445. PMID: 35394843
2. Samanta S, Swaminathan M, Hu J, Lee KT, Sundaresan A, Goh CK, Siow CH, Loh KS, Chan SH, **Tay JK**,* Cheong I.* Deep Learning-Fuzzy Inference (DeLFI): An Interpretable Model for Detecting Indirect Immunofluorescence Patterns Associated with Nasopharyngeal Cancer. Am J Pathol. 2022 Jun 22:S0002- 9440(22)00178-X. PMID: 35750258. *joint last / corresponding authors
3. **Tay JK**, Siow CH, Goh HL, Lim CM, Hsu PP, Chan SH, Loh KS. A comparison of EBV serology and serum cell-free DNA as screening tools for nasopharyngeal cancer: results of the Singapore NPC screening cohort. Int J Cancer. 2020; 146:2923-2931.