



Yew Kuo Chao

Senior Consultant, Department of Gastroenterology and Hepatology, TTSH

Research Interests:

- Artificial Intelligence in Hepatology and Smart Toilet Systems
- Translational Medicine and Clinical Trials in MASLD/MASH
- Liver Regeneration and Repair
- Point-of-Care Diagnostics and Hepatitis C Elimination Models

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Biography

Yew Kuo Chao is a clinician-scientist in the field of hepatology, with research interests spanning artificial intelligence, metabolic-associated liver disease, liver regeneration, and viral hepatitis elimination. His translational research integrates data-driven modelling, clinical trials, and precision diagnostics to advance patient-centred liver care.

He leads several programmes applying AI in Hepatology and Smart Toilet Systems, including the AI-Enhanced Smart Toilet System for Optimal Bowel Preparation (NMRC Grant CNIG24jul-0013, awarded 28 August 2025). His work in MASLD/MASH translational medicine and care models focuses on developing predictive algorithms and evidence-based intervention strategies to improve metabolic and fibrotic liver outcomes.

Yew collaborates closely with NTU scientists in projects such as Clinical and Biological Insights into Steatotic Liver Disease (SLD) and Related Cirrhosis, PRECISE-SG100K: Advancing Asian-Centric Liver Disease Treatment through Machine Learning Applications in MASLD and MetALD Precision Medicine, and Deep Learning for the Inference of Liver Fibrosis and Cirrhosis in NAFLD.

In public health, he works on a community-based study with GreenHouse to identify risk factors and HCV prevalence among higher-risk populations as part of broader HCV point-of-care diagnostic and elimination models. Building on his sustained community engagement, he serves as a committee member of the National Hepatitis C Programme Steering Committee, contributing to national strategies for hepatitis C elimination.

Selected Publications

- In press. Nat Protoc. Park S-M, Song Z, Kim M, Lee J, Kwon T-H, Kim S, Jun B-H, Lee S-H, Park W, Sonu I, Rosen M, Ong C-W, Shen X, Ng W-T, Chae S-H, Siah K-T-H, Ho D, Song S-W, Martinez-Martin N, Song J, Wong S, Lee B, Kim J, Kim J-H, Kim S-G, Kim G, Yew K-C, Kim M, Huang H-W. Deployment of a Cloud-Based, Passive Defecation Monitoring System for Continuous Gut Health Monitoring. Accepted; in process. Paper #NP-P220399C.
- 22 Nov 2024. J Viral Hepat. Yew K-C, Sim A-S-Y, Hawkins R, Acharyya S, Wong G-D, Wong S-W-C, Lim Y-H, Yang W-L, Lim W-Y, Chow A-L-P. Real-World Evaluation of Point-of-Care Testing for Hepatitis C Antibodies: Navigating Hepatitis C Elimination Effort. 2024 Nov 22. doi: 10.1111/jvh.14039. Epub ahead of print. PMID: 39575764.
- 15 Aug 2024. Nat Rev Gastroenterol Hepatol. Mak L-Y, Liu K, Chirapongsathorn S, Yew K-C, Tamaki N, Rajaram R-B, Panlilio M-T, Lui R, Lee H-W, Lai J-C, Kulkarni A-V, Premkumar M, Lesmana C-R-A, Hsu Y-C, Huang D-Q. Liver Diseases and Hepatocellular Carcinoma in the Asia-Pacific Region: Burden, Trends, Challenges and Future Directions. 2024 Aug 15. doi: 10.1038/s41575-024-00967-4. Epub ahead of print. PMID: 39147893.
- 27 July 2024. GI Hep, Singapore & June 2024 EASL. Knowledge, Perceptions and Barriers to the Diagnosis and Treatment of Hepatitis C among persons who inject drugs: findings from the Educate-Test-Treat (ETT) Programme in Singapore.
- 2024 March. APASL, Kyoto, Japan. Evaluating HCV Point-of-Care Testing - a Real-World Study on People Who Inject Drugs in Singapore.
- Kalaiyarasi K, Sanchalika A, L HM, Yap WM, Vishalkumar S, Yew KC, Low JK, Sameer J, Huey TCW, Tan YP (2024) Transient Elastography Is the Best-Performing Non-Invasive Test of Liver Fibrosis in Obese Asian Patients with Non-Alcoholic Fatty Liver Disease: A Pilot, Cross-Sectional Study. *Medicina* 60:169. DOI: 10.3390/medicina60010169
- 2023 Nov. Impact of time-varying analysis of liver enzymes and baseline factors on the development of significant fibrosis in NAFLD: A Singapore Retrospective Cohort Study, Poster Presentation, Last author. The Liver Meeting® 2023 in Boston, MA, USA.
- Yew KC, Wong SH, Wong VW-S, Oon HH - Letter regarding "Waiting for the changes after the adoption of steatotic liver disease. *Clin Mol Hepatol* 30: 118-120. DOI: 10.3350/cmh.2023.0472
- 2023 Sep 20. *Naunyn Schmiedebergs Arch Pharmacol*. Yew KC, Tan QR, Lim PC, Low WY, Lee CY. Assessing the impact of direct-acting antivirals on hepatitis C complications: a systematic review and meta-analysis.

- Lee AJ, Wu AG, Yew KC, Shelat VG (2023) Does size matter for resection of giant versus non-giant hepatocellular carcinoma? A meta-analysis. World J Gastrointest Surg 15: 273-286. DOI: 10.4240/wjgs.v15.i2.273.
- 2022 Direct-acting Antiviral Treatment Improves Outcomes of Hepatitis-C-related Complications: A Systematic Review and Meta-analysis. Abstract. 15th National Conference for Clinical Research (NCCR), Malaysia, Dr Wu Lien-Teh, Young Investigator Award, Second Runner-up.
- Tong VJW, Shelat VG, Yew KC (2021) Clinical application of advances and innovation in radiation treatment of hepatocellular carcinoma. J Clin Transl Res 7: 811-833. DOI: N.A.

Notable Research Awards & Grants from Past 5 Years

Name of Awards & Grants	Year Obtained
Ng Teng Fong Healthcare Innovation Programme (NTF HIP)	2019
Industry Alignment Fund – Industry Collaboration Projects (IAF-ICP)	2020
National Medical Research Council (NMRC), Singapore, Clinician Innovator Grant (CNIG) - CNIG24jul-0013	2025

Translating Research Into Healthcare

- 27 July 2022 <https://www.straitstimes.com/singapore/health/new-initiatives-launched-to-help-ex-drug-offenders-get-tested-and-treated-for-hepatitis-c>