



ATCCS 2025

BEYOND THE HORIZON

Asia Thoracic Cancer Care Summit



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Professor NG Sze Hang Calvin 吳士衡

Environmental Foundation Professor of Thoracic Surgery

BSc (Hons), MBBS (Imperial), MD (Res) (Lond), FRCSEd, FCSHK, FHKAM (Surgery)

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Biography

Dr Ng is the endowed Environmental Foundation Professor of Thoracic Surgery at The Chinese University of Hong Kong, and Honorary Consultant Surgeon at Prince of Wales Hospital - New Territory East Cluster (NTEC) hospitals in Hong Kong.

He graduated from Imperial College, London in 1999 with BSc (1st Class Honours and 1st in his class), and MBBS (Honours, Distinction in Surgery, Anthony de Rothschild Medal 1st in surgery). He spent time working under Lord Sir Ara Darzi in London and Prof. Anthony P.C. Yim in Hong Kong, and later as Specialist Registrar and Honorary Research Fellow at the Queen Elizabeth Hospital, University of Birmingham for Prof. Timothy R Graham. He was awarded FRCSEd(CTh) in 2007, and subsequently Doctorate of Medicine in Research (MD(Res)) from University of London for his work on ventilator induced and IR lung injury.

Dr Ng is a pioneer in Single Port (Uniportal) VATS in the Asia-Pacific region, performing the first single port VATS lobectomy in Hong Kong in 2012. His interest in hybrid operating room (HOR) image-guided surgery led to world's first publications of HOR use in single port VATS major lung resection (iVATS) in 2015, and image-guided electromagnetic navigation bronchoscopy (iENB) in 2016. In March 2019, he led his world renowned HOR-iENB team to perform Asia-Pacific's first HOR non-invasive transbronchial microwave ablation of lung cancer. He is Co-PI of NAVABLATE, prospective international study on transbronchial microwave ablation for lung cancer treatment, and has one of world's largest experience of this technique. His team also performed; the world first IllumisiteTM transbronchial microwave ablation, first Monarch robotic bronchoscopy procedure outside of US in 2021, world first robotic bronchoscopy microwave ablation, first Galaxy robotic bronchoscopy procedure in Asia in 2023 and is Co-PI of INCITE, PSR-Emprint, TARGET, POWER and TiLT trials investigating utilization of alternate ablation energies, and robotic assisted bronchoscopy in diagnosis and therapy.

His academic contributions include 31 book chapters (including in Pearson's Thoracic & Esophageal Surgery 3rd & 4th Eds, Shield's Thoracic Surgery 8th Eds), and more than 300 publications in indexed international journals including Lancet, Lancet Oncology, JCO, ERJ, JTO etc (Scopus Citations >6570; H-index 41; Jan-2025). Dr Ng is the corresponding Editor of the book Atlas of Uniportal Video Assisted Thoracic Surgery (Springer Science), the standard text for uniportal VATS surgeons, and Associate Editor of the book Lung Cancer (1st & 2nd Editions).

Dr Ng was the team leader for NTEC lung cancer multidisciplinary team outstanding team award 2021 (Hospital Authority, HK), and also supervises a team of postgraduate students to study molecular biology of lung cancer and therapeutic role of ablation for lung diseases. He closely collaborates with Departments of Clinical Oncology (led by Prof Tony Mok), Anatomical Cellular Pathology and Biomechanical Engineering, through several competitive grants to study targeted therapies in lung cancer, magnetic actuated surgical endoscopes, organoids and nanoparticles in cancer therapy.

Research Interests

- Single Port (Uniportal) Minimally Invasive Video-Assisted Thoracic Surgery (VATS)
- Hybrid Operating Room Image-Guided VATS (iVATS) for Small Lung Lesions
- Robotic-Assisted Bronchoscopy (RAB) & Image-Guided Electromagnetic Navigation Bronchoscopy (iENB)
- Microwave & Novel Ablation Techniques for Lung Cancer
- Magnetic Actuated Surgical Endoscopes
- Chest Wall Reconstruction
- Molecular Biology of Lung Cancer
- Nanoparticles & Aptamers in Cancer Therapy
- Education and Training in VATS & ENB
- Inflammatory & Immune Dysfunction following Thoracic Surgery



Additional Information

- Elected Fellow, American College of Chest Physicians (FCCP)
- Elected Fellow, Asian Pacific Society of Respiriology (FAPSR)
- Honorary Consultant, Lung Center of the Philippines.
- Visiting Professor, IRCAD (2018)
- Founder, Asian Single Port VATS Symposium (ASPVs) series
- Program Director, ENB Workshop & ENB PACES Clinical Immersion Program
- Director, Asia-Pacific Advanced & Novel Approaches to VATS Workshop
- Founder & Director, Asia Thoracic Cancer Care Summit (ATCCS) series
- co-Editor-in-Chief, Annals of Translational Medicine
- Editorial Boards of; Cancers; Innovations; Journal of Thoracic Disease (JTD); Oncology Research and Technology in Cancer Research & Treatment (TCRT) .
- Assistant Editor, European Journal of Cardio-Thoracic Surgery (EJCTS)
- Associate Editor, Frontiers in Surgery
- Board of Directors of International Society of Minimally Invasive Cardiothoracic Surgery (ISMICS)
- Committee Member (CME), International Association for the Study of Lung Cancer (IASLC)
- Board member of Asia-Pacific Thoracic Advisory Board (APTAB); Executive Board member of Asia Thoracoscopic Education Platform (ATEP); Council member of Association of Thoracic and Cardiovascular Surgeons of Asia (ATCSA); Council member of IGNITE innovation & LCI.
- Council Member, Hong Kong Society of Endosonography, Editorial Board of Surgical Practice (CSHK Journal), Hong Kong Thoracic Society (HKTS)
- Fellowship examiner for the Royal College of Surgeons of Edinburgh, Academy of Medicine Singapore and CSHK
- ISMICS Annual Best Presentation (2016), APSR Annual Travel Scholarship (2016), EACTS Techno-College Innovation Award Finalist (2019) and CSHK Award (2019) for research in HOR iVATS & iENB.
- International Exhibition of Inventions Geneva - Surgery Innovation Bronze Medal Award (2021)
- Hospital Authority Outstanding Team Award – Lung Cancer Multidisciplinary Team- Team Leader (2021)
- Programme Director, Cardiothoracic Board, College of Surgeons of Hong Kong

Selected Publications

1. Huang, Yisen; Li, Jian; Zhang, Xue; Xie, Ke; Li, Jixiu; Liu, Yue; Ng, Sze Hang ; Chiu, Philip, Wai-yan; Li, Zheng. A Surgeon Preference-Guided Autonomous Instrument Tracking Method With a Robotic Flexible Endoscope Based on dVRK Platform. IEEE Robotics and Automation Letters (RA-L) 2022 Apr;7(2):2250-2257
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3. Chan JWY, Lau RWH, Chu CM, Ng CSH. Expanding the Scope of Electromagnetic Navigation Bronchoscopy-guided Transbronchial Biopsy and Ablation with Mobile 3D C-arm Machine Cios Spin® - Feasibility and Challenges. Transl Lung Cancer Res 2021 Oct;10(10):4043-4046
4. Yu PSY, Chan KW, Lau RWH, Wan IYP, Chen GG, Ng CSH. Uniportal Video-Assisted Thoracic Surgery for Major Lung Resection is Associated with Less Immunochemokine Disturbances than Multiportal Approach. Scientific Reports 2021 May;11:10369
5. Chan JWY, Lau RWH, Ngai JCL, Tsoi C, Chu CM, Mok TSK, Ng CSH. Transbronchial Microwave Ablation of Lung Nodules with Electromagnetic Navigation Bronchoscopy Guidance – A Novel Technique and Initial Experience with 30 Cases. Transl Lung Cancer Res 2021 Apr;10(4):1608-1622.
6. Yu PSY, Chu CM, Lau RWH, Ng CSH. Hybrid Theatre Facilitates Lung-Preserving Multimodal Treatment for Multiple Pulmonary Metastases. Ann Thorac Surg 2021 Feb;111(2): e89-92
7. Chan JWY, Lau RWH, Ng CSH. Electromagnetic Navigation Bronchoscopy Fiducial Marker Margin Identification plus Triple Dye for Complete Lung Nodule Resection. J Thorac Cardiovasc Surg Techniques 2020 Sept;3:P329-333
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- Gallego-Poveda J, Galvez-Munos C, Hanke I, Janik M, Juhos P, Libretti L, Lucciarini P, Macri P, Margaritora S, Mahoozi HR, Nachira D, Pardolesi A, Pischik V, Sagan D, Schreurs H, Sekhniaidze D, Tosi D, Turna A, Vannucci F, Zielinski M, Rocco G. Uniportal video-assisted thoracic surgery lobectomy: a consensus report from the Uniportal VATS Interest Group (UVIG) of the European Society of Thoracic Surgeons (ESTS). *Eur J Cardiothorac Surg*. 2019 Aug 1;56(2):224-229
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 19. Tong JH, Yeung SF, Chan AWH, Chung LY, Chau SL, Lung RWM, Tong CY, Chow C, Ng CSH, Mok TSK, To KF. MET amplification and exon 14 splice site mutation define unique molecular subgroups of Non-small Cell Lung Carcinoma with poor prognosis. *Clin Cancer Res* 2016 Jun 15;22(12):3048-56
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