



ATCCS 2025

BEYOND THE HORIZON

Asia Thoracic Cancer Care Summit



19th - 20th June, 2025 · HONG KONG

Hyun Koo KIM

Professor and Chief

Department of Thoracic & Cardiovascular Surgery

Korea University Guro Hospital

College of Medicine

Korea University

Korea

Specialty

- Image-guided precision lung cancer surgery, minimally invasive robotic surgery, novel-fluorescent dyes
- Liquid biopsy (exosome, CTCs), biomarker discovery

Education

- Korea University, College of Medicine, Department of Thoracic and Cardiovascular Surgery, 2004 (Ph. D.)
- Korea University, College of Medicine, Department of Thoracic and Cardiovascular Surgery, 2000 (M.S.)
- Korea University, College of Medicine, 1996 (M.D.)

Honors/Awards

- 2025 Alumni Association Academic Award by the Korea University Alumni Association
- 2024 The Ministry of Food and Drug Safety of Korea Minister's Award
- 2023 EACTS Techno-College Innovation Award
- 2023 Murok Nam Kyung-Ae Korea University Alumni Association Medical Award
- 2022 The Ministry of Health and Welfare of Korea Minister's Award
- 2022 The Korean Society for Thoracic & Cardiovascular Surgery Research Award

Publications

1. Precise and safe pulmonary segmentectomy enabled by visualizing cancer margins with dual-channel near-infrared fluorescence. *International Journal of Surgery*. 2024 May 1;110(5):2625-2635
2. Detection of metastatic lymph node and sentinel lymph node mapping using mannose receptor targeting in vivo mouse and rabbit uterine cancer models. *International Journal of Surgery*. 2024 May 1;110(5):2692-2700
3. Single test-based diagnosis of multiple cancer types using Exosome-SERS-AI for early stage cancers. *Nature Communications*. 2023 Mar 24;14(1):1644
4. Ultralow Background Near-Infrared Fluorophores with Dual-Channel Intraoperative Imaging Capability. *Adv Healthc Mater*. 2023 Jan 14;e2203134
5. Fluorescent and Iodized Emulsion for Preoperative Localization of Pulmonary Nodules. *Ann Surg*. 2021 May 1;273(5):989-996.
6. Evaluation of Intraoperative Near-Infrared Fluorescence Visualization of the Lung Tumor Margin With Indocyanine Green Inhalation. *JAMA Surg*. 2020 Aug 1;155(8):732-740
7. Early-stage lung cancer diagnosis by deep learning based spectroscopic analysis of circulating exosomes. *ACS Nano*. 2020 May 26;14(5):5435-5444

Brief Bio

Professor Hyun Koo Kim is a professor and chief of Thoracic and Cardiovascular Surgery at the Korea University Guro Hospital. He is a specialist and pioneer in the field of minimally invasive image-guided surgery and robotic thoracic surgery. He is one of the first surgeons in Asia who used robotic lung cancer surgery and the world's first performed two ports approach in robotic thoracic surgery. In 2015, he was the first Korean to receive the Grillo Award from the European Thoracic and Cardiovascular Society for developing a technology that accurately distinguishes lung cancer from normal tissue using an ICG fluorescent dye. He has published many research papers, such as *Advanced Healthcare Materials* (2023), *JAMA Surgery* (2020), and *Annals of Surgery* (2021), etc., through research on developing lung cancer-targeted molecular fluorescence contrast agents and fluorescence imaging systems for minimally accurate resection of lung cancer. He has recently been researching blood-derived exosomes for non-invasive with an early lung cancer diagnosis and published many research papers, such as *Nature Communications* (2023), *Scientific Reports* (2021), and *ACS NANO* (2020).