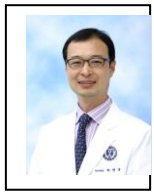

(국문/영문)이름: 최병욱/Byoung Wook Choi
(국문/영문)직위: 교수/Professor
(국문/영문)소속: 연세대학교/Yonsei University
(국문/영문)기타소속: (주) 팬토믹스/ Phantomics Inc.

국문 강연제목: 의료 인공지능: 연구에서 임상, 임상에서 상용화로

영문 강연제목: Medical AI: From Research to Clinical Practice and Commercialization

Abstract(영문): Medical artificial intelligence (AI) is entering a new phase—moving beyond technological innovation toward real-world adoption in clinical practice and the healthcare market. In this lecture, from the perspective of a radiologist and entrepreneur with hands-on experience in developing and commercializing AI-based medical devices, we will explore the current landscape and future directions of medical AI. Globally, the number of FDA-approved AI medical devices has surged from around 70 in 2018 to over 340 by 2025, with radiology accounting for approximately 70% of them—serving as a test bed for AI implementation. However, technical excellence alone is not sufficient for successful clinical adoption. Challenges encountered throughout the startup, development, and commercialization of AI medical devices include algorithm generalizability, limited access to medical data, difficulties in multi-center validation, and institutional barriers such as regulatory approval and reimbursement. The most critical factors for successful deployment are not merely "better algorithms" but effective integration into hospital workflows, building trust among clinicians, and establishing sustainable business models. Biomedical engineering researchers can play a pivotal role not only in developing innovative algorithms but also in transforming them into practical tools that can truly impact patient care. This lecture aims to offer realistic insights into the journey of translating research achievements from the lab to actual clinical benefit for patients.

Brief Biosketch (간단한 이력, 연구/대외활동 소개,국문/영문)

Byoung Wook Choi, MD, PhD, is a Professor of Radiology at Yonsei University College of Medicine and CEO of Phantomics Inc., a medical AI company. He specializes in cardiovascular imaging and artificial intelligence in medicine. After earning his MD and PhD from Yonsei University, he completed a research fellowship at Beth Israel Deaconess Medical Center, Harvard Medical School. Dr. Choi previously served as Director of the Department of Cardiovascular Radiology, the Research Institute of Radiological Science, and the Center for Clinical Imaging Data Science at Yonsei University, as well as Director of Health Technology R&D Planning at the Korea Health Industry Development Institute. With over 230 peer-reviewed SCI/SCIE publications, his research has advanced cardiac CT/MRI imaging, radiomics, and AI-driven diagnostic technologies. He has held leadership roles in multiple professional societies, including the Asian Society of Cardiovascular Imaging and the Korean Society of Artificial Intelligence in Medicine.