

Mechanical Engineering Seminar Series

November 25th, 2025, 11:00AM

Dean's Conference Room, E-203E

Title: Shipbuilding and Strategy

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Abstract: The global shipbuilding industry is entering a major transition as geopolitical risks, the MASGA movement, and tightened decarbonization regulations accelerate changes in ship design, fuel choice, and shipyard competitiveness. This talk reviews historical shifts in shipbuilding dominance—from Europe and the United States to Japan, Korea, and China—and explains how labor cost, technology, and industrial policy shaped each transition.

Using this framework, I discuss the challenges and opportunities now facing Korea, including smart shipyard innovation, AI/robotics for productivity, and the rapid adoption of zero-emission fuels. The presentation also highlights how improved power-generation strategies and digital optimization can strengthen operational efficiency on board modern ships.

In addition, I will briefly present my individual research project on optimizing load distribution for shipboard power generators using computer-based decision systems.

Brief Bio: Youngsuk Choe is a Visiting Specialist at the University of California, Irvine, and a senior test & operation engineer at HD Hyundai Heavy Industries, specializing in ship commissioning, propulsion systems, and integrated power management. He previously served as a First Lieutenant in the Republic of Korea Marine Corps and holds a Master's degree in Naval Architecture and Ocean Engineering. With over a decade of hands-on experience in sea trials, engine performance verification, and smart-ship system integration, he has contributed to Korea's large-scale commercial and naval shipbuilding programs. He is also a licensed Professional Engineer in Naval Architecture.