

## Mechanical Engineering Seminar Series

April 28, 2025, 10:30AM

EIS Complex, EIS 104

### **Title: Toward U.S. – Korea Collaborations in Shipbuilding Education and Research**

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**Abstract:** The US government has established the Office of Shipbuilding to tackle significant issues in American shipbuilding, specifically regarding delivery time, cost, and quality. This initiative aims to modernize the maritime industry and anticipates a productive partnership with South Korea, whose shipbuilding industry is known for its strong commercial success. This presentation will cover the history and current status of shipbuilding in the US and South Korea. It will also discuss the shipbuilding technologies involved, such as naval architecture, mechanical engineering, computer science, and industrial engineering, and will feature relevant case studies from South Korea on the application of AI, manufacturing automation, robots, and shipyard simulations. Looking ahead to potential collaborations, this presentation will suggest examples of shared educational programs designed to train shipbuilding engineers. It will also outline possible research topics for both the near and distant future.

**Brief Bio:** Prof. Shin is a technology advisor at HD Korea Shipbuilding and Ocean Engineering (KSOE), formerly known as Hyundai Heavy Industries group, since 2020. He is actively participating in the company's various projects, including the Korea-U.S. shipbuilding collaboration, next generation CAD-PLM-DM development, AI-applications to shipbuilding, and smart shipyard technologies. He is also a professor emeritus at the Dept. of Naval Architecture and Ocean Engineering, Seoul National Univ. (SNU), South Korea. He teaches shipyard technologies to SNU senior students. He received his Ph.D. degree from the Dept. of Ocean Engineering at MIT, and BS and MS degrees from the Dept. of Naval Architecture at Seoul National Univ. He was a research scientist and visiting professor of the Dept. of Naval Arch. and Marine Engin. at the Univ. of Michigan, Ann Arbor. He, along with Prof. Lamb at U-M received an ONR research fund for the development of shipyard simulation technologies. He contributes his knowledge and leadership as the Chairman of CESS. CESS (Committee for Expertise of Shipbuilding Specifics) is a technical committee of JECK, an international organization of shipyards of Japan, EU, China, and Korea. Prof. Shin is a well-known scholar and expert in the field of shipbuilding. He received the Elmer L. Hann award three times, the best paper award, from the Society of Naval Architects and Marine Engineers (SNAME), U.S.A. Since 2005, he has been teaching 'Shipyard Operations and Technology' at MIT every summer to MIT graduate students and US engineers. He is a recipient of the 'Best Professor in Teaching' award from the College of Engineering at SNU. He has served honorably in shipbuilding communities, including President of Society of Naval Architects of Korea, Outside Director of Samsung Heavy Industries, Chairman of Board of Korea Institute of Ocean Science and Technology, Chairman of Technical Committee of Korea Register of Shipping.

