Curriculum Vitae

Sangseok Han

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EDUCATION

University of Strathclyde — MSc, Advanced Naval Architecture	United Kingdom
Degree awarded with *Distinction* (75.9/100, Highest MSc Classification)	2024–2025
Inha University — BSc, Naval Architecture & Ocean Engineering	South Korea
GPA: 3.7/4.0 (Rank: 2/16; First Class Equivalent)	2021–2024

RESEARCH EXPERIENCE

- ***Multiphysics Computational Modeling and Control of Wave-Energy Converters***
  Visiting Researcher, *The University of Osaka (Oct–Dec 2025; collaboration ongoing)*
  — Presented at JASNAOE 2025; accepted for OMAE 2026.
- ***Turbulent-Flow Simulation and Roughness Modeling Using High-Fidelity CFD***
  MSc Researcher, *University of Strathclyde (2024–2025; project ongoing)*
  — 36th Symposium on Naval Hydrodynamics — Invited full paper; Ocean Engineering — Under review (1st revision submitted).
- ***High-Fidelity CFD for Multiphysics Modeling of Floating Wind Turbines***
  MSc Researcher, *University of Strathclyde (2024–2025)*
  — Presented at MARINE 2025; Applied Ocean Research — Submitted.
- ***Uncertainty Quantification in Hydrodynamics with Temperature-Dependent Reynolds Effects***
  Undergraduate Researcher, *Inha University (2023–2024)*
  — Published as Cover Article in JMSE (2025); featured by the university (towing-tank temperature effects).

PUBLICATIONS

1. ***How well do deterministic multi-component waves reproduce FOWT responses in JONSWAP seas?***
   Han, S. (2025) — Applied Ocean Research (Q1) — Under review, Solo Author.
2. ***Beyond uniform roughness: CFD study on ship resistance with spatially non-uniform surface conditions***
   Han, S.*, Lee, H., Dai, S., et al. (2025) — Ocean Engineering (Q1) — Under review (1st revision submitted), Corresponding Author.
3. ***Temperature-induced errors in ITTC model-ship extrapolation — Cover Article***
   Han, S., Dai, S., Terziev, M., et al. (2025) — Journal of Marine Science and Engineering (Q2) — Published.
4. ***Resistance and speed penalty on a naval ship due to hull roughness: CFD investigation***
   Choi, W., Min, G., Han, S., et al. (2024) — Ocean Engineering (Q1) — Published.

CONFERENCE PRESENTATIONS

Selected Conferences

* Corresponding author for all works listed below.

- **Symposium on Naval Hydrodynamics (*2026; Full Paper Invited, ONR*) — *Manuscript in preparation***
  A Computational Fluid Dynamics Analysis of Spatial Roughness Distributions on Ship Resistance
  — Turbulent-flow simulation of spatially varying hull roughness and its influence on resistance and near-wall flow.
- **International Ocean Offshore and Arctic Engineering Conference (*2026; Accepted*) — *Manuscript in preparation***
  Simulation-Based Analysis of a Gyroscopic WEC Using a Modular CFD–MBD Approach
  — Coupled CFD–multibody dynamics modeling of gyroscopic wave-energy conversion.
- **International Conference on Computational Methods in Marine Engineering (*2025*)**
  Numerical Analysis of Fluid-Structure Interaction (FSI) for Semi-Submersible Floating Offshore Wind Turbine
  — High-fidelity CFD–FSI analysis resolving fully coupled hydrodynamic–structural interactions in offshore platforms.
- **International Congress of Naval Architecture (*2025*)**
  Impact of Towing Tank Temperature on Model-Ship Extrapolation: Revisiting the ITTC Procedure
  — Uncertainty quantification of temperature-induced Reynolds-scaling deviations in model-ship extrapolation.

Additional Conferences

- **The Japan Society of Naval Architects and Ocean Engineers (*2025*)**
  CFD-Based Model Predictive Control for Point Absorber Wave Energy Converters
- **The UK Marine Technology Postgraduate Conference (*2025*)**
  Experimental and Computational Study of Air Lubrication Systems for Drag Reduction in KCS Hull
- **Workshop on Korea-Europe's Ship & Ocean Research and Partnership Strength (*2025*)**
  Free Decay Response Analysis of a Floating Offshore Wind Turbine (FOWT)
- **Asian Offshore Wind, Wave and Tidal Energy Conference Series (*2025*)**
  — *Prediction of Scale Effects on Tidal Turbines by Reynolds Scaling Method*
  — *AI-CFD Coupling Approach for FOWT Motion Analysis in Extreme Weather*
- **The National Congress on Fluids Engineering (*2024; Best Paper Award*)**
  Uncertainty of the ITTC 1957 Correlation Line with Temperature Variations
- **Korea Institute of Ocean Science & Technology Conference (*2024; Excellent Paper Presentation Award*)**
  Free Drift Simulation of a Battleship Using CFD

MAJOR ACADEMIC RECOGNITIONS / HONORS

- *Cover Article Selection (1:185) — Journal of Marine Science and Engineering (2025)*
- *Reviewer Excellence Award — Ocean Engineering (2025)*
- *Best Paper Award — National Fluids Engineering Conference (2024)*
- *Excellence Paper Presentation Award — The Society of Naval Architecture of Korea (SNAK) (2024)*
- *Featured in University News — University of Strathclyde (2024)*
- *Dean's International Excellence Award — University of Strathclyde (2024)*
- *Industrial Technology Award — President, SNAK (2023)*
- *Academic Excellence Scholarship — Inha University (2022, 2024)*

PROFESSIONAL ACTIVITIES

- Peer Reviewer — *Ocean Engineering (Feb 2025–Present); Physics of Fluids (Nov 2025–Present)*
- Visiting Researcher — *The University of Osaka (Oct–Dec, 2025)*
- Undergraduate Research Student, *Inha University (2023–2024)*
- Student Ambassador, *Korean Society of Ocean Engineering (2022–2023)*

SIGNIFICANT EXTRACURRICULAR ACTIVITIES

- Piano Society — Chopin Performance (*The University of Osaka, 2025*)
- Art Society — Pencil Drawing & CFD Art Exhibition (*The University of Osaka, 2025*)
- Marine Robotics Society (*University of Strathclyde, 2024*)
- Ship Design Competition — Nuclear-Fusion LH2 Carrier Concept (*Inha University, 2022*)

TEACHING, PROFESSIONAL, AND VOCATIONAL EXPERIENCE

- **Algorithm Leader — Autonomous Surface Vessel Development (2021–2025)**
  Marine Robotics Society (University of Strathclyde); I-tricat (Inha University)
  — *Led development of navigation algorithms for robotic vessels (path planning, PID/optimal control tuning).*
- **Mathematics Tutor (2021–2024)**
  Matius Academy / Duke Academy
  — *Delivered tutoring in calculus and applied mathematics; developed structured lesson plans.*
- **Military Service — Sonar Petty Officer (2016–2020)**
  Republic of Korea Navy
  — *Operated sonar systems for underwater acoustic detection.*
  — *Awards: 2nd Fleet Commander's Commendation (2020); Captain's Commendation Medal (2018).*