Yongkuk Jeong, PhD

Assistant Professor in Sustainable Production Logistics
Department of Production Engineering, KTH Royal Institute of Technology
Brinellvägen 8, 114 28 Stockholm, Sweden
yongkuk@kth.se

Work Experience

KTH Royal Institute of Technology, Sweden	Jan 2021 – Present
Assistant Professor, Department of Production Engineering	
KTH Royal Institute of Technology, Sweden	Jan 2019 – Jan 2021
Postdoc, Department of Sustainable Production Development	
Inha Technical College, South Korea	Mar 2018 – Dec 2018
Lecturer, Department of Naval Architecture and Marine Engineering	
Seoul National University, South Korea	Mar 2018 – Jan 2019
Postdoc, Research Institute of Marine Systems Engineering	

Education

Seoul National University, South Korea	Sep 2011 – Feb 2018
Doctor of Philosophy in Naval Architecture and Ocean Engineering	

- *Thesis title: A shipyard logistics simulation system considering shipbuilding process, spatial arrangement, and logistics flow*

Seoul National University, South Korea	Mar 2007 – Feb 2011
Bachelor of Science in Naval Architecture and Ocean Engineering	

- Graduated as valedictorian in the program

Selected Publications

[1] Enabling Industrial Internet of Things-based Digital Servitization in Smart Production Logistics.
- Erik Flores-García, *Yongkuk Jeong*, Sichao Liu, Magnus Wiktorsson, and Lihui Wang (2022).
- International Journal of Production Research, 61 (12).

[2] Spatial Arrangement using Deep Reinforcement Learning to Minimise Rearrangement in Ship Block Stockyards.
- Byeongseop Kim, *Yongkuk Jeong*, and Jong Gye Shin (2020).
- International Journal of Production Research, 58 (16).

[3] A Simulation-based Decision Support Tool for Circular Manufacturing Systems in the Automotive Industry using Electric Machines as a Remanufacturing Case Study.
- Mayarí Pérez, Michael Lieder, *Yongkuk Jeong,* and Farazee M. A. Asif (2025).
- International Journal of Production Research.

[4] Machine Learning in Smart Production Logistics: A Review of Technological Capabilities.
- Erik Flores-García, Dong Hoon Kwak, *Yongkuk Jeong*, and Magnus Wiktorsson (2025).
- International Journal of Production Research, 63 (5).

[5] A Framework and System Architecture for Value-oriented Digital Services in Data-driven Production Logistics.
- Masoud Zafarzadeh, Erik Flores-García, *Yongkuk Jeong*, and Magnus Wiktorsson (2025).

- International Journal of Production Research.

[6] A Spatial Layout Optimization Program considering the Survivability of a Naval Vessel in the Early Design Stage.
- *Yong-Kuk Jeong*, Youngmin Kim, Su Heon Ju, Jong-Gye Shin, Jong-Choel Kim, and Jong Hun Woo (2019).
- Journal of Ship Production and Design, 35 (2).

More publications are available in <u>Google Scholar profile</u> and my <u>personal website</u>

Selected Research Projects

SHIFT-DT	Jan 2024 – Dec 2025

Sustainable, Holistic, Integrated Framework for Ship Design and Production Transformation through Digital Twins
- Funded by Digital Futures
- Leading the project as a Principal Investigator (PI) to establish a framework that can marry holistic ship design with digitalized ship production and logistics through digital twins

Dynamic SALSA	Apr 2023 – Mar 2026

Dynamic scheduling of assembly and logistics system using AI
- Funded by Vinnova (Eureka SMART)
- Building a computer vision-based platform for analyzing human operators and objects in a production logistics environment

TIMEBLY & TIMEBLY 2	Nov 2021 – Oct 2024
	Sep 2025 – Aug 2028

Time data management automation for manual assembly
- Funded by Vinnova
- Leading the human pose estimation and time series prediction analysis for manual assembly tasks using open-source libraries

DYNASTEEL	Mar 2022 – Dec 2022

Dynamic scheduling and transport visibility in steel production
- Funded by Vinnova
- Involved in human-centered system design process for autonomous transportation system including requirements analysis and prototyping

C-PALS	May 2019 – Aug 2022

Cyber-physical assembly and logistics system
- Funded by Vinnova (Eureka SMART)
- Built a digital twin and real-time production logistics data visualization platform using open-source libraries

HUPMOBILE	Jan 2019 – Dec 2021

Holistic urban and per-urban mobility
- Funded by Interreg Baltic Sea Region
- Involved in participatory modelling and simulation process for urban mobility simulation with multiple stakeholders

Simulation system for manufacturing strategy and execution to quantify ship production cost	Oct 2016 – Jan 2019

- Funded by National IT Industry Promotion Agency of Korea
- Developed and implied a simulation-based monitoring system for ship production process

Simulation-based production planning and management system for middle-sized shipbuilding companies Oct 2014 – Jan 2019
- Funded by Ministry of Trade, Industry, and Energy of Korea
- Developed and implied an advanced planning and control system for ship production process

Advanced Naval Vessel Research Laboratory Sep 2012 – Dec 2017
- Funded by Ministry of National Defense of Korea
- Developed an optimization algorithm for spatial layout design of naval vessels considering the survivability

Teaching Experience

KTH ML2302: Modelling, Simulation and Optimization of Sustainable Production 2020 – Present
Course responsible and teacher

KTH ML2303: Digitalisation for Sustainable Production 2020 – Present
Course responsible and teacher

KTH ML2305: Production Logistics and Supply Chains 2022 – Present
Teacher and Examiner (2024 – present)

KTH ML230X: Degree Project in Sustainable Production Development, Second Cycle 2020 – Present
Supervisor

KTH ML1503: Industrial Systems II 2020 – Present
Guest lecture in Industry 4.0

KTH ML1505: Industrial Systems III 2020 – Present
Guest lecture in Operator and Industry 4.0

KTH ML2307: Theory of Science and Research Methodology in Sustainable Production Development 2022 – 2024
Teacher and course responsible (2022 – 2024)

Ingenjör4.0 - Upskilling for future manufacturing 2022 – 2024
Course responsible for Autonomous Robots and Cyber-Physical Systems

EIT Urban Mobility Lifelong Learning in New Trends on Urban Mobility 2022
Teacher

InhaTech: Ship Production Design 2018
Course responsible and teacher

InhaTech: Introduction of Ship Production Engineering 2018
Course responsible and teacher

Skills

- **Project management**: led and successfully delivered various research and development projects
- **Programming skills**: C#, Python, JavaScript, Java, SQL, HTML, and UML
- **Language**: English (fluent), Korean (fluent), Swedish (working knowledge)

Others

- **Winner of the Elmer L. Hann Award** for best paper on Ship Production delivered at a Society of Naval Architects and Marine Engineers (SNAME) event in 2019 for the paper "Model-based Computational Shipyard Dynamics and its Applications"

- **Reviewed papers** for various journals and conferences including:
  - International Journal of Computer Integrated Manufacturing (IJCIM)
  - International Journal of Production Research (IJPR)
  - Ships and Offshore Structures
  - Automation in Construction
  - Journal of Engineering for the Maritime Environment (JEME)
  - International Journal of Naval Architecture and Ocean Engineering (IJNAOE)
  - Journal of Ship Production and Design (JSPD)
  - International Journal of Precision Engineering and Manufacturing-Green Technology (IJPEM-GT)
  - IFIP International Conference on Advances in Production Management Systems (APMS)
  - Winter Simulation Conference (WSC)
  - European Operations Management Association (EurOMA) annual conference

- **Editorial board member** in
  - International Journal of Sustainable Engineering
  - Ships and Offshore Structures
  - International Journal of Precision Engineering and Manufacturing – Smart Technology

- **Life member** of the Society of Naval Architects of Korea