



Scientific Publications

Abbreviations for names of conferences or other sources are provided at the end of the list.

2023

Henrique Gaspar, Ludmila Seppälä, Herbert Koelman, José Jorge Garcia Agis

Can European Shipyards be Smarter? A Proposal from the SEUS Project

https://www.ntnu.edu/documents/1324404881/0/39_SEUS+Gaspar+et+al.pdf/d5f3af7a-5af5-38b3-a312-075222157ec5?t=1686758055674

Ludmila Seppälä

Integrated Shipbuilding Data Management (COMPIT 2023)

http://data.hiper-conf.info/compit2023_drubeck.pdf

Yasuo Ichinose, Henrique M. Gaspar

Interactive ship flow simulation enhanced by neural network model in a web environment - ECMS 2023

doi: <https://doi.org/10.7148/2023-0155>

2024

Benjamin Lagemann, Randi Lunnan, Per Olaf Brett, Jose Jorge Garcia Agis, Astrid Vamråk Solheim, Stein Ove Erikstad

What is a ship design firm, really?

doi: <https://doi.org/10.59490/imdc.2024.914>

Giovanni A. Amara, Kazuo Nishimoto, Edgard B. Malta, Henrique M. Gaspar, Mehrnoosh Nickpasand, Rodolfo T. Gonçalves

FOWT Hull Concept Assessments Considering the Design for Operability (ISOPE 2024)

Paper Number: ISOPE-I-24-218

<https://onepetro.org/ISOPEIOPEC/proceedings-abstract/ISOPE24/All-ISOPE24/ISOPE-I-24-218/546606>

Henrique M. Gaspar, Ícaro A. Fonseca, David Andrews

Wither now the Design Building Block (DBB) Approach

doi: <https://doi.org/10.59490/imdc.2024.915>

Henrique M. Gaspar, Yasuo Ichinose, Kazuo Nishimoto

Seeing a Sea of Ships - Exploring the Ship Design Space in the Digital Domain

doi: <https://doi.org/10.59490/imdc.2024.893>

Herbert Koelman

Piping layout integrated in ship design and stability evaluation (IMDC 2024)

doi: <https://doi.org/10.59490/imdc.2024.886>

Herbert Koelman, Bastiaan Veelo, Ludmila Seppälä, Paul Filius

Closing the gap between early and detailed ship design models (IMDC 2024)

doi: <https://proceedings.open.tudelft.nl/imdc24/article/view/837>

Janica Altea Bronson, Ícaro Fonseca, Henrique Gaspar

Challenges Towards an Integrated Digital Twin Platform for Maritime Systems: Tackling Shifts In Data Ownership (OMAE 2024)

doi: <https://doi.org/10.1115/OMAE2024-136483>

Janica Altea Bronson, Ícaro Fonseca, Henrique Gaspar, Fernando Luz

Data Models in Ship Design and Construction – Insights from 4D BIM (IMDC 2024)

doi: <https://doi.org/10.59490/imdc.2024.842>

Janica Altea Bronson, Fernando Luz, Ícaro Fonseca, Henrique Gaspar

Graph Databases for Multi-Domain Taxonomies in Maritime Systems (ECMS 2024)

doi: <http://dx.doi.org/10.7148/2024-0250>

Janica Altea Bronson, Henrique Murilo Gaspar, Cecilia Haskins, Ícaro Aragao Fonseca, , Jose Jorge Garcia Agis

Robust Digital Information for Physically Large and Complex SoS: A Maritime Design Case Study (SOSE 2024)

doi: <https://doi.org/10.1109/SOSE62659.2024.10620954>

Jisang Ha, Myung-II Roh, Min-Chul Kong, Mijin Kim, Jeoungyoun Kim, Nam-Kug Ku

An Automated Method for Pipe Routing in Ship Unit Modules (IMDC 2024)

doi: <https://doi.org/10.59490/imdc.2024.830>

José Jorge Garcia Agis, Per Olaf Brett

Digital Shipbuilding Needs, Challenges, and Opportunities (IMDC 2024)

doi: <https://doi.org/10.59490/imdc.2024.849>

Junsong He, Yong Se Kim, Ludmila Seppälä

A Service Blueprint Approach in Shipbuilding Activity Mapping (IMDC 2024)

doi: <https://doi.org/10.59490/imdc.2024.827>

Ludmila Seppälä

Industry 5.0: Transforming ship design through human-centered approach (IMDC 2024)

doi: <https://doi.org/10.59490/imdc.2024.865>

Maria Jose Legaz, Henrique M. Gaspar

Computer Vision For Reverse Engineering In The Design, Simulation And Operation Of Marine

Systems (ECMS 2024)

ISSN: 2522-2414

doi: <https://doi.org/10.7148/2024-0234>

Pengcheng Ni, Jussi Kantola

Taxonomy of knowledge management systems in a complex environment - International Conference on Applied Human Factors and Ergonomics (AHFE International 2024)

doi: <http://doi.org/10.54941/ahfe1004933>

Per Olav Brett, Jose Jorge Garcia Agis, Benjamin Lagemann

Early Marine Systems' Design – Cracking the wicked problem - The case of a novel biomass harvesting vessel

doi: <https://doi.org/10.59490/imdc.2024.851>

Viktoriiia Koilo

Decarbonization in the maritime industry: Factors to create an efficient transition strategy – Business Perspectives. Volume 15 2024, Issue #2, pp. 42-63

doi: [http://dx.doi.org/10.21511/ee.15\(2\).2024.04](http://dx.doi.org/10.21511/ee.15(2).2024.04)

Viktoriiia Koilo

Value chain approach towards decarbonization in the maritime industry: factors to create an efficient transition strategy - International Conference on Sustainable Initiatives in Maritime Sector: Main Challenges and Future Trends 2024

Christin-ID: 2283071,

handle: <https://hdl.handle.net/11250/3607010>

2025

Dawid Stade, Maximilian Idjen, Elisabeth Brandenburg

Multi-Structure Product Data Management in Ship Design (COMPIT 2025)

doi: <https://doi.org/10.5281/zenodo.18943429>

Diego De León, Herbert Koelman

Generative Algorithms in Early Ship Design: An Exploration of Hull Subdivision Generation (COMPIT 2025)

doi: <https://doi.org/10.5281/zenodo.17534156>

Gökce Yilmaz, Miia Martinsuo, Henrique Gaspar, Janica Altea Bronson

Interoperability in Project-Based Industries: Learnings and Challenges (IFAC MIM 2025)

doi: <https://doi.org/10.1016/j.ifacol.2025.09.240>

Henrique Gaspar

A Single-Source-Of-Truth For Future Ship Life-Cycle Data (HIPER 2025)

doi: <https://doi.org/10.5281/zenodo.18863722>

Henrique Gaspar, Ícaro Fonseca, Ludmila Seppälä, Herbert Koelman, Jose Jorge Garcia Agis

Can European Shipyards be Smarter? A Proposal from the SEUS Project (TRAconference 2024)

https://link.springer.com/chapter/10.1007/978-3-032-06763-0_8

Janica Altea Bronson, Maryam Teimouri, Henrique Gaspar, Ícaro Fonseca, Karolina Bierkoszka, Filip Ginter, Herbert Koelman

A RAG-based LLM Approach for Data Validation and Harmonization in Ship Design (COMPIT 2025)

doi: <https://doi.org/10.5281/zenodo.17493949>

Jisang Ha, Janica Altea Bronson, Henrique Gaspar

Managing Design Changes in Shipbuilding: Proposing a Real-Time Simulation Dashboard (PRADS 2025)

doi: <https://doi.org/10.5281/zenodo.17306358>

Junsong He, Miia Martinsuo

Balancing between efficiency value and service value in delivering customized solutions (World Mass Customization and Personalization Conference)

Link is not available at this moment.

Junsong He, Miia Martinsuo

Using data platforms for smart service innovation in delivering complex systems (ISPIM 2025)

<https://www.proquest.com/docview/3238450856>

Junsong He, Miia Martinsuo

Using data platforms for smart services over the lifecycle of a complex system (SSC 2025)

doi: <https://doi.org/10.5281/zenodo.17864332>

Karolina Bierkowska, Tomasz Hinz, Grzegorz Mazerski, Przemysław Krata

Application of Neural Networks in Early-Stage Ship Design for Stability Evaluation Using IMO Second Generation Criteria (IMAM 2025)

doi: https://doi.org/10.1007/978-3-032-01566-2_6

Karolina Bierkowska, Henrique Gaspar, Tomasz Hinz

Navigating AI in Naval Architecture: A Comparative Effectiveness Study of Machine Learning Models for Ship Stability (COMPIT 2025)

doi: <https://doi.org/10.5281/zenodo.17493840>

Maryam Teimouri, Jenna Kanerva, Filip Ginter

A Deep Dive into Multi-Head Attention and Multi-Aspect Embedding (RANLP 2025)

doi: <https://doi.org/10.26615/978-954-452-098-4-146>

Pengcheng Ni, Jussi Kantola

Exploring the factors influencing knowledge management strategy in the European shipbuilding industry: A pilot study. *Journal of Knowledge Management Practice*, 25(6).

<https://doi.org/10.62477/jkmp.v25i6.595>

Zeynep Tacgin, Miia Martinsuo

An augmented reality solution for digitalisation training in shipbuilding: Systematic review and application development (INTED 2025)

doi: [10.21125/inted.2025.0574](https://doi.org/10.21125/inted.2025.0574)

Zeynep Tacgin, Miia Martinsuo

Design-based research for user-centered digital industrial training. *Paper submitted to Journal of Technology and Science Education 2025.*

Link is not available at the moment.

Zeynep Tacgin, Miia Martinsuo

Instructional design to promote data-driven practices and digitalisation in shipbuilding projects (INTED 2025)

doi:[10.21125/inted.2025.0573](https://doi.org/10.21125/inted.2025.0573)

Zeynep Tacgin, Miia Martinsuo

Promoting digitalization competences in project-based firms: Design and testing of a digital learning solution. *Paper submitted to Project Leadership and Society 2025.*

Link is not available now.

Abbreviations for names of conferences or other sources

COMPIT - Computer and IT Applications in the Maritime Industries

ECSM – The European Council for Modeling and Simulations

HIPER - Symposium on High-Performance Marine Vehicles

IFAC MIM – IFAC Conference on Manufacturing Modelling, Management and Control MIM

IMAM - International Congress of the International Maritime Association of the Mediterranean

IMDC – International Marine Design Conference

INTED – International Technology, Education and Development Conference

ISOPE – The International Ocean and Polar Engineering Conference

ISPIM - The International Society for Professional Innovation Management Conference

OMAE – International Conference on Offshore Mechanics and Arctic Engineering

PRADS – International Symposium on Practical Design of Ships and other Floating Structures

RANLP - Proceedings of Recent Advances in Natural Language Processing

SOSE – Annual System of Systems Engineering Conference

SSC – Spring Servitization Conference

TRA - Transport Research Arena