Digital Waves in Logistics and Maritime Systems:
Sailing Towards Efficiency

University of Hamburg, ESA East
August 26-29, 2024

26.08.2024			
16:00-18:00	Registration at ESA East, Room 221		
18:00- approx. 20:00	Welcome Reception		
Time	**27.08.2024**		
8:30-9:30	**Registration II**		
9:30-10:00	Room 221 **Welcome Session** *Chair: Stefan Voß*		
10:00-11:30	**Session 1 .1, Room 121** Smart Ports *Chair: Rommert Dekker*	**Session 1 .2, Room 122** Intermodal Transport *Chair: Christian Bierwirth*	**Session 1 .3, Room 123** Container Stacking & Storage *Chair: René de Koster*
	Data Platforms in the Maritime Domain: Challenges and Opportunities *Anisa Rizvanolli and Olaf Rendel*	Competitive Service Network Design and Pricing for Intermodal Transport *Adrien Nicolet and Bilge Atasoy*	Q-Learning for Outbound Container Stacking at Container Terminals *Aaron Lim, Seokchan Lee, Jeongyoon Hong, Younghoo Noh, Sung Won Cho and Wonhee Lee*
	Drone-Based Identification of Containers and Semi-Trailers in Inland Ports *Jana Teegen, André Kelm, Ole Grasse, Maris Hillemann, Emre Gülsoylu and Simone Frintrop*	Route Planning with Heterogeneous Environmental Preferences of Shippers *Justin Wittig and Christian Bierwirth*	Enhancing Port Efficiency: A Simulation-Based Study of Container Reshuffling in Container Yards *Mengya Liu, Xin Chu, Zexin Lin and Haobin Li*
	Addressing Challenges in Creating Traffic Profiles for Transshipment Hubs in Seaports *Shubhangi Gupta, Marvin Kastner, João Vieira and Carlos Jahn*	AI-based Delay Estimation for Freight Trains *Chhandosee Bhattacharya, Anisa Rizvanolli and Ole John*	Determining the Throughput Capacity of Mixed-Load Multi-Deep Storage and Retrieval Systems *René De Koster and Timo Lehmann*
11:30- 12:00	Coffee Break, Room 221		
12:00-13:30	**Session 2 .1, Room 121** Smart Terminals *Chair: Leonard Heilig*	**Session 2 .2, Room 122** Maritime Shipping *Chair: Branislav Dragović*	**Session 2 .3, Room 123** Berth Planning *Chair: Rob Zuidwijk*

	TwinSim: Development of a Digital Twin for Container Terminals *Paul Kokot and Leonard Heilig*	An Insight of COVID-19-Related Literature in Maritime Transport *Branislav Dragović, Nenad Zrnic and Andro Dragović*	Dynamic Berth Allocation Policies in the Deep-Sea Terminals *Rob Zuidwijk, Pieter van den Berg, Orkun Tunay and Debjit Roy*
	Using Activity-Based Formalism to Analyse a Container Terminal Model in FlexTerm *Changying Shao, Haobin Li, Tianhao Chen and Zexin Lin*	Forecasting the Baltic Dry Index Using Machine Learning *Tim Seemann, Pierre Bouchard and Stefan Voß*	Optimizing Vessel Scheduling and Berth Allocation in Constrained Maritime Environments: A Metaheuristic Approach *Christian Bierwirth, Robert Burdett and Paul Corry*
	Performance Estimation of Twin Cranes in Container Terminals *Ningning Song, Kap Hwan Kim and Xuehao Feng*	Strategic Fleet Planning in Collaborative Logistics in the Offshore Oil and Gas Industry *Andreas Breivik Ormevik and Kjetil Fagerholt*	Risk or Slack – How to Tackle Uncertainty in Berth Allocation Planning *Lorenz Kolley and Kathrin Fischer*

13:30-14:30	Lunch Break, Room 221	
14:30-16:00	**Session 3.1, Room 121** Port Digitalization and Automation *Chair: Ikyeong Moon*	**Session 3.2, Room 122** Manufacturing, E-Commerce and Last-Mile Delivery *Chair: Lijun Ma*
	A Dynamic Pickup-and-Delivery Problem with recharging for Autonomous Delivery Robots in an Airport Terminal *Joonhwa Jeong and Ilkyeong Moon*	Hybrid Flow Shop Scheduling with Workforce Assignment for Additive Manufacturing *Benedikt Zipfel and Nadine Schiebold*
	Pricing and Empty Container Repositioning Strategy for Container Sharing System *Junseok Park and Ilkyeong Moon*	Sequential Sponsored-Products and Off-Amazon Advertising Optimization for Etailers *Yina Ning, Yangyang Xie, Houmin Yan and Lijun Ma*
	Development of a Novel QC Work Congestion Index to Enhance Accuracy in Predicting Ship Operation Time *Daesan Park, Taeeon Noh, Yohan Koo, Hyeonjik Lee and Hyerim Bae*	Last-Mile Delivery Route Optimization Considering Collection of Reusable Bags *Sangjun Yoon, Gwang Kim and Youngchul Shin*
16:00-16:30	Coffee Break, Room 221	
16:30-18:00	**Session 4.1, Room 121** Sustainable Maritime Logistics *Chair: Kap-Hwan Kim*	**Session 4.2, Room 122** Waterway Transportation *Chair: Frank Meisel*
	A Semi-supervised Learning Imputation Model for Automatic Identification System Data *Jaehyeon Heo, Dohee Kim, Sekil Park, Sunghyun Sim and Hyerim Bae*	A Graph Neural Network Approach for the Waterway Ship Scheduling Problem *Peter Wenzel, Nahom Tsehaie, Raka Jovanovic and Frederik Schulte*

	Spatial-Temporal Analysis of Ship Collision Risk *Suhyeon Jo, Dohee Kim, Sekil Park, Sunghyun Sim and Hyerim Bae*	Multi-Period Containerized Battery Swapping Station Location Planning for Inland Waterway Transportation *Virgilio Ma Jr Ramos and Bilge Atasoy*
	Long-Term Forecasting of Pollutant Emissions in the Arctic Ocean Based on Cross-Dimensional Dependency Network using Arctic Ship Traffic Data *Sunghyun Sim, Younghwi Kim*	A Stochastic Optimization Model for Tramp Scheduling with Many-to-Many Matching and Speed Optimization *Liangqi Cheng*

Time	28.08.2024	
8:00-9:00	**Registration III**	
9:00-10:00	Room 221 **Keynote Yvo Saanen:** Digitization to Enable Sustainable Supply Chains *Chair: Leonard Heilig*	
10:00-10:30	Coffee Break, Room 221	
10:30-12:00	**Session 5.1, Room 121** Green Innovations in Smart Port Logistics: Future Directions *Chair: Eon-Kyung Lee*	**Session 5.2, Room 122** Vessel Planning *Chair: Dario Pacino*
	A Hybrid Testing Approach to Secure the Smooth Go-Live of Automated Container Terminals *Holger Schuett*	The Economic Value and Environmental Benefits of Accurately Predicting Arrival Times in International Shipping *Thalis Zis*
	AI-Enhanced Smart Maritime Logistics: Data-Driven Innovations at South Korean Ports *Hyerim Bae*	Stowage Planning with Hybrid Slots, Hazardous Cargo and Stability Limits *Magnus Levinsen, Oliver Thomsen, Dario Pacino and Line Reinhardt*
	New Fuels and their Emissions in the Maritime Industry – Considerations for Sustainable Port Logistics *Kang-Ki Lee*	Attribute Dynamics and Machine Learning in Berth Time Prediction Developing a Selection Framework for Algorithms Based on Time-Variant Data Availability and Vessel Characteristics *Pierre Bouchard, Stefan Voß and Leonard Heilig*
	Innovative OSS Terminal Concept for Efficient Handling of Mega Container Ships *Eon-Kyung Lee and JungJoon Bae*	Predicting Ferry Delays Using Machine Learning and Open Data *Malek Sarhani and Mohamed El Amrani*
	+ 30 Min Panel Discussion with Kap-Hwan Kim	
12:00-13:00	Lunch Break, Room 221	
13:00-14:30	**Session 6.1, Room 121** Resilient Operations *Chair: Philip Cammin*	**Session 6.2, Room 122** Smart Terminals II *Chair: Hans-Dietrich Haasis*

	Envision: An AI-Driven Wireless Sensing Technology for Cargo Ship Fire Detection *Junye Li, Aryan Sharma, Yirui Deng, Deepak Mishra, Hiran Wijetilaka and Aruna Seneviratne*	Berth Allocation with Integrated Cold Ironing at Maritime Container Terminals: Mathematical Modelling and a Matheuristic Approach *Abtin Nourmohammadzadeh and Stefan Voß*
	Optimizing Maintenance Scheduling Considering Predictive Maintenance Inaccuracy *Jingjing Yu and Philip Cammin*	A Bilevel Model for Locating Intermodal Container Terminals Using the Entropy Maximization Approach *Jiajie Zhang, Yun Hui Lin, Ek Peng Chew and Kok Choon Tan*
	Improving Safety of Navigation and Sustainability of Shipping through Innovative Autonomous Shipping Technologies in Pacific Asia: A Case Study of Thailand *Chackrit Duangphastra*	The Container Assignment Model: An Efficient Three-Stage Solution Method *Michael Bell, Veronica Schulz, Shengda Zhu, Jyotirmoyee Bhattacharjya and Glenn Geers*
14:30- 15:00	Coffee Break, Room 221	
15:00-16:00	**Session 7.1, Room 121** Smart Ports II *Chair: Ding Yi*	**Session 7.2, Room 122** Environmental Sustainability *Chair: Haobin Li*
	Metaheuristic Approaches for the Straddle Carrier Dispatching Problem *Ahmet Cürebal, Nina Radojičić, Leonard Heilig and Stefan Voß*	Optimizing Maritime Logistics for Ocean Alkalinity Enhancement *Martine Lindland, Emmiche Advocaat Wigand, Kjetil Fagerholt, Frank Meisel and Lisa Herlicka*
	Machine Learning-based Transport Time Prediction in Container Terminals *Julian Neugebauer, Leonard Heilig and Stefan Voß*	Employing System Archetypes to Facilitate Decision-Making in the Transition to Alternative Marine Fuels at the Port of Singapore *Hongdan Chen, Vedpal Arya, Haobin Li and Yanan Li*
16:10-17:30	Room 221 **Keynote Jan Hoffmann:** Digital Waves in Logistics and Maritime Systems: Sailing Towards Efficiency *Chair: Stefan Voß* and Closing Ceremony	
19:00-22:00	Conference Dinner aboard the MS Hanseatic (a detailed description for the location will be provided in the conference package)	

Time	29.08.2024
9:00	Start excursion to Eurogate Container Terminal
Approx. 13:00	Return from the excursion