



**Impacts of the Fourth Industrial Revolution on Port-City Integration
“World Port Sustainability Program Aspects”**



Changqian Guan, Ph.D.

Professor, Department of Marine Transportation, U.S. Merchant Marine Academy, USA.

Professor Changqian Guan holds a Ph.D. in intermodal freight transportation from New Jersey Institute of Technology. He joined the U.S. Merchant Marine Academy in 2002. He has extensive experience in maritime economics and logistics, intermodal freight transportation, marine container terminal operations, and port development. Prior to his academic career, he sailed as a deck officer for several years and held positions in the maritime industry with various management capacities. He is actively engaged in research/consulting activities. He and Dr. Yahalom publish in peer-review journals and presents in international and domestic conferences and seminars. They also deliver solutions to clients in both the private and public sectors, such as port authority, maritime terminal operator, shipping line, and government agency.

Currently, he is the Assistant Department Head, Marine Transportation Department.

Research (Abridged Sample)

- Dr. Guan and Dr. Yahalom developed a methodology to address port development issues such as cargo handling equipment needs, productivities, intermodal transfer, and truck congestions. Their model was adopted by major port authorities in the U.S. to optimize land use, terminal productivity, and throughput.
- He and Dr. Yahalom conducted feasibility studies in port development, short-sea shipping, offshore wind farm development, and intermodal transfer facilities.
- He and Dr. Yahalom provided benefits – cost analyses for port investment/development projects.
- He and Dr. Yahalom undertook two projects for the U.S. Army Corps of Engineers to analyze containership deployment patterns of shipping lines and vessel operating costs for prioritizing port infrastructure development. They accurately predict the timeline of Ultra Large Containerships (ULCS) deployment in the U.S. after Panama Canal expansion.
- He and Dr. Yahalom publish numerous papers on topics such as economics of large containerships, port congestions, operations optimization, port governance and development models, terminal productivity, port security, supply chain, and trade development.