NUS National University of Singapore | Department of Civil & Environmental Engineering
Faculty of Engineering

The Centre for Transportation Research (CTR)

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Strategic planning for coastal community resilience to maritime transportation disruption

By

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Date: **Thursday, 21 November, 2019**
Time: **10.30 am to 12:00 pm**
Venue: **EA #06-02**
Faculty of Engineering,
National University of Singapore

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by 20 Nov 2019 or when all seats are taken up

Abstract

Worldwide, many coastal communities are highly dependent upon marine transportation systems that are vulnerable in natural disasters. To facilitate appropriate disaster response operations, it is important to have a good understanding of how coastal marine transportation systems, including ports, shipping companies, and maritime service providers, would be disrupted in natural hazard events. Of particular importance is gaining knowledge about how disruptions would impact coastal communities, what resilience strategies maritime transportation providers would employ, and what strategies could effectively mitigate the disruption risks. This talk will describe the ongoing work on the analysis and modeling of disruption to a coastal maritime transportation system, focusing on the movement of goods and people in the emergency response phase of a disaster. Through iterative engagement with stakeholders, the research develops models and tools for disaster preparedness planning, while also fostering stakeholder dialogue and shared understanding of community risks, maritime transportation system resilience, and response strategies. The talk outlines results of qualitative research addressing resilience strategies of maritime service providers following a natural disaster. It also provides an overview of the development of a quantitative multi-modal disaster response logistics model, which can provide insights in the effectiveness of mitigation strategies. Given the major hazards relevant to coastal communities in a Canadian context, case studies address landslides, earthquakes, and hurricanes.

Speaker Biography

Dr. Floris Goerlandt currently holds a position as assistant professor at the Department of Industrial Engineering at Dalhousie University. He is also the Canada Research Chair in Risk Management and Resource Optimization for Marine Industries. Prior to this appointment (2015-2018), Dr. Goerlandt was university lecturer in maritime risk and safety management at Aalto University (Espoo, Finland), where he led an international research project focusing on risk management of the winter navigation system in the Northern Baltic Sea. He concurrently (2017-2018) held a part-time appointment as senior researcher at the Baltic Marine Environment Protection Commission (HELCOM), where he contributed to the development of a guideline for oil spill pollution preparedness and response risk management for European response authorities. Dr. Goerlandt received his PhD degree in Maritime Risk and Safety in 2015 from Aalto University (Espoo, Finland). He also obtained a MSc. degree in Maritime Sciences from the University of Antwerp (Antwerp, Belgium) in 2006, and an MSc. degree in Marine Technology from Ghent University (Ghent, Belgium) in 2005. His expertise is in: risk analysis and management, safety engineering and management, maritime transportation, ship collision and grounding, ship performance in ice, mathematical modelling and optimization of transportation systems, and emergency/disaster planning and response. He has published widely on these topics, with about 50 co-authored journal articles and 40 conference papers. Dr. Goerlandt serves on the editorial board of Safety Science, for which he is currently guest-editing a Special Issue 'Mapping Safety Science – Reviewing Safety Research'. He is co-chairing the Shipping Risk Community of Practice of the Marine Observation Prediction Marine Environmental Observation Prediction and Response (MEOPAR) Network, and is member of the Working Group on Shipping Impacts in the Marine Environment (WG SHIP) of the International Council for the Exploration of the Sea (ICES).

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*****Seats are limited. Please register early. All are welcome and admission is free*****

Location Map