## Conference on Global Perspectives of the Belt and Road Initiative:

# Maritime Studies and China's Global Investment

4 – 5 December, 2017 | Zhejiang University | Zhoushan, China



浙沪大驴海洋學院

OCEAN COLLEGE, ZHEJIANG UNIVERSITY



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### Programme

18:00-20:00	Welcome reception	
	<b>Venue</b> : Haiyun Xuan, Haiji Hotel, Zhoushan Campus, Zhejiang University	
ecember 2017		
08:30-09:00	Registration	
	<b>Venue</b> : Haina Ting, 2 <sup>nd</sup> floor, Haiji Hotel, Zhoushan Campus, Zhejiang University	
09:00-09:15	<b>Opening ceremony</b> (Venue: Haina Ting, Haiji Hotel, Zhoushan Campus, Zhejiang University)	
09:00-09:05	Opening remark by Chairman: Professor Paul Tae-Woo Lee, Ocean College, Zhejiang University, China	
09:05-09:10	Welcome remark by Professor Ying Chen, Assistant President, Zhejiang University, China	
09:10-09:15	Congratulatory Remark by Professor Lizhong Wang, Dean of Ocean College, Zhejiang University, China	
09:15-09:30	Memorial photo taking with all the participants, Library Building	
09:30-10:00	<b>Coffee break</b> (Haina Ting, 2 <sup>nd</sup> floor, Haiji Hotel)	
10:00-12:00	Plenary session chaired by Professor Paul Tae-Woo Lee (Zhejiang University, China) and Professor Baogang He (Deakin University, Australia)	
Keynote speech:		
10:00-10:30"China's Belt-Road Initiative as a Top-level Design" by Professor Suisheng (Sam) Zhao (University of Denver, USA)		
10:30-11:00 "The Impacts of Trade Liberalization on Chinese Economy with OBOR" by Professor Geoffrey Stokes (RMIT University, Australia) and Professor		
	Baogang He (Deakin University, Australia)	
11:00-11:30 "	<b>Chinese leading scholars and institutions in maritime research"</b> by Professor Young-Tae Chang (Inha University, Korea)	
11:30-12:00Discussions and Questions		
Discussant Panel:		
	Discussant Panel:	
	» Professor Kai He (Griffith University, Australia)	

### 4 December 2017

13:00-15:00	Paper presentation sessions
12:00-12:00	Venue: 2 <sup>nd</sup> floor, Haiji Hotel, Zhoushan Campus, Zhejiang University,

Conference Room	Session A Room: Haizhong Ting == Geopolitical aspects of Belt and Road ==	Session B Room: Haina Ting == Belt & Road Initiative and application ==
Session Chairperson	<b>Geoffrey Stokes</b> (RMIT University, Australia)	Zhiguo He (Zhejiang University, China)
12.00 12.20	Sovereignty and normative concerns: India's response to China's 'Belt and Road Initiative'	The development of Chinese maritime power under its Belt and Road Initiative
13:00-13:30	Pradeep Taneja (University of Melbourne, Australia)	Kevin Li (Chung-Ang University, Korea)
	Crossroads: American Perspectives on China's Belt and Road Initiative	Overseas Warehouse deployment for cross-border ecommerce in the context of the Belt and Road Initiative
13:30-14:00	Ken Boutin (Deakin University, Australia)	Chan-Juan Liu, Zhi-Hua Hu, Wan-Ying Yao (Shanghai Maritime University, China)
14.00.14.20	The Impacts of Trade Liberalization on Chinese Economy with OBOR	Port efficiency and international trade in China
14:00-14:30	David Hundt (Deakin University, Australia)	Young-Tae Chang, Ahhyun Jo (Inha University, Korea), Kyoungsuk Choi (Shandong Normal University, China), Suhyung Lee (Inha University, Korea)
	The Political Economy of a Rising China in Southeast Asia: Malaysia's Response to the 'Belt and Road Initiative'	A Study on the Choice intention of the Korea-China Train Ferry as an embracing strategy of the B&R Initiative in Korea
14:30-15:00	Hong Liu, Guanie Lim (Nanyang Technological University, Singapore)	Kyoung-Suk Choi, Tong-Shui Xia (Shandong Normal University, China), Paul Tae-Woo Lee (Zhejiang University, China)
15:00-15:30	<b>COFFEE-BREAK</b> (Haina Ting, 2 <sup>nd</sup> floor, Haiji Hotel)	

### 4 December 2017

**15:30-17:20Paper presentation sessions**<br/>**Venue**: 2<sup>nd</sup> floor, Haiji Hotel, Zhoushan Campus, Zhejiang University

Conference Room	Session C Room: Haizhong Ting == Beyond Geo-politics ==	Session D Room: Haina Ting == Port and investment under the Belt & Road Initiative ==
Session Chairperson	Baogang He (Deakin University, Australia)	Kevin Li (Chung-Ang University, Korea)
	Analysis of container shipping networks on the 21st-Century Maritime Silk Road –An initial research	Heat map of Chinese foreign direct investment: assessing strategialignment with the Belt and Road corridors
15:30-16:00	Wu Jing (National Engineering Research Center for Water Transport Safety, China), Chengpeng Wan (Wuhan University of Technology, China), Di Zhang (Liverpool John Moores University, UK)	Anjali Chhetri (Homesglen Institute of TAFE, Australia), Booi Kam, Seem Narayan, Prem Chhetri, Charlie Huang (RMIT University, Australia)
	Whither Belt and Road in the South Pacific? Promises and Pitfalls of China's Growing Presence in Papua New Guinea	China's port investment related to maritime connectivity in the context of the Belt and Road Initiative
16:00-16:30	Chengxin Pan, Matthew Clarke (Deakin University, Australia)	Zhi-Hua Hu, Chan-Juan Liu (Shanghai Maritime University, China)
	A comparative analysis of existing and potential corridors between Indian Ocean and China	Hierarchical governance of the going-out strategy of China's ports in th context of the Belt and Road Initiative
16:30-17:00	Lidan Du, Ying-En Ge (Shanghai Maritime University, China)	Jihong Chen, Yijie Fei (Shanghai Maritime University, China), Paul Tae- Woo Lee (Zhejiang University, China), Xuezong Tao (Shanghai Maritime University, China)
	Imagining Eurasia as shared heritage: the Silk Roads of the 21st century	China's global investment and maritime flows in the context of the Be and Road Initiative
17:00-17:30	Tim Winter (Deakin University, Australia)	Zhi-Hua Hu, Chan-Juan Liu, Lan-Qing Wei, Hui Wang, Fei-Yan Lu (Shanghai Maritime University, China)
18:00-2100	<b>Dinner</b> - <b>Venue</b> : Haiyun Xuan, 1st floor, Haiji Hotel, Zhoushan Campus, Zhejiang	g University

December 2017		
09:00-12:00	<b>Paper presentation sessions</b> <b>Venue</b> : Haiji Hotel, Zhoushan Campus, Zhejiang University	
Conference Room	Session E Room: Haizhong Ting == Optimization and Modeling applied to BRI ==	Session F Room: Haina Ting == Risk, security and environmental issues related to BRI ==
Session Chairperson	<b>Ming K. Lim</b> (Chongqing University, China; Coventry University, UK)	<b>Anming Zhang</b> (University of British Columbia, Canada)
	Modelling and vulnerability analysis of the container shipping network in China- a shipping company perspective	Risk Evaluation of cold-chain logistics networks between Thailand and Northeast China
09:00-09:25	Chengpeng Wan, Jing Zhang, Di Zhang (Wuhan University of Technology, China)	Shen Li Xin, Zhu Guoqing, Zhang lirou (Dalian Maritime University, China)
	A flexible cargo pick-up and delivery model for performance examination of belt and road corridors	Climate Change, Natural Disasters and Adaptation Investments: Inter- and Intra-port Competition and Cooperation
09:25-09:50	Shahrooz Shahparvari (RMIT University, Australia), Behrooz Bodaghi, (Swinburne University of Technology Hawthorn, Australia), Prem Chhetri (RMIT University, Australia), Paul Tae-Woo Lee, Sung-Ho Shin (Zhejiang University, China)	Anming Zhang, Kun Wang (University of British Columbia, Canada)
	Optimization of Empty Container Reposition under the Alliance of Shipping Liners and China Railway Express	Non-cooperation or cooperation: disaster prevention and strategic investment for multiple ports in a region
09:50-10:15	Lei Xing, Shujuan Guo, Zhenhua Yang, Zhihong Jin (Dalian Maritime University, China)	Zixiang Gong (Zhejiang University, China)
10:15-10:45	Coffee break (Haina Ting, Haiji Hotel)	

ecember 2017		
Conference Room	Session G Room: Haizhong Ting == SIG of Belt and Road ==	Session H Room: Haina Ting == Risk, security and environmental issues related to BRI ==
Session Chairperson	<b>Ying-En Ge</b> (Shanghai Maritime University)	<b>Prem Chhetri</b> (RMIT University, Australia)
	Impact of China-Pakistan Economic Corridor on Peace and Security in Pakistan	Optimization of Intermodal Transportation Network for Agricultural foo between North-East China and Myanmar
10:45-11:10	Zahid Ahmed (Deakin University, Australia)	Shen Li Xin, Chaw Su Zin (Dalian Maritime University, China)
	Avoiding difficult choices: A media analysis of the 'Belt and Road' debate in South Korea	The attitude of port organizations towards climate change adaptation strategies
11:10-11:35	David Hundt, Sooyoung Kim (Deakin University, Australia)	Yile He, Adolf K.Y. Ng (University of Manitoba, Canada), Anming Zhang (University of British Columbia, Canada), Sabrina Xu (University of British Columbia, Canada)
		The Security of Indian Ocean Sea Lanes: Perspective of the Belt and Road Initiative
11:35-12:00		Yuancheng Hu, Min Tu (Wuhan University of Technology, China)
12:00-12:20	Closing remark by Paul Tae-Woo Lee and Baogang He	
12:20-13:30	LUNCH(Venue:Zhiwei Xuan, Zhoushan Campus)	

# **Opening ceremony**

## **Conference Organisers' Welcome Message**

Organisers:

**Professor Paul Tae-Woo Lee** Director, Institute of Maritime Logistics, Ocean College, Zhejiang University, China

### Welcoming remark

On behalf of Zhejiang University and Ocean College, I would like to express my cordial welcome and most sincere greetings to every distinguished guest to the Conference on Global Perspectives of Belt and Road Initiative: Maritime Studies and China's Global Investment, in a very lovely place – our Zhoushan Campus.

Under the Belt and Road Initiative, the connectivity of countries and people in different regions and continents has been significantly enhanced. As the old Chinese saying goes, "Ocean embraces all streams". Ocean College shares the same position with her expanding layout of disciplines and social commitment to contribute to the Belt and Road Initiative. We are conducting the research in the cutting-edge areas of ocean engineering, marine science, marine information technology and marine social science. In particular, I believe that maritime studies and China's global investments will be fruitful directions for both industry and research.

I hope you will not only exchange a lot of new scientific knowledge and exciting results during and after this Conference, but you will also meet old friends and make new good friends here, which we trust will definitely help you deepen future research collaboration.

Finally, I warmly welcome you again to the BRI Conference, and hope that you will have nice time in Zhoushan. Thank you very much from the bottom of my heart!

Professor Ying CHEN

Assistant President of Zhejiang University Founding Dean of Ocean College

## **Congratulatory Remark**

**Professor Lizhong Wang** Dean of Ocean College, Zhejiang University, China

# **Plenary session**

### Chaired by

- Professor Paul Tae-Woo Lee Ocean College, Zhejiang University, China
- Professor Baogang He Deakin University, Australia

### Keynote speech

- Professor Suisheng (Sam) Zhao University of Denver, USA
- Professor Geoffrey Stokes RMIT University, Australia
- **Professor Baogang He** Deakin University, Australia
- Professor Young-Tae Chang Inha University, Korea

### Discussants

- Professor Kai He Griffith University, Australia
- **Professor Jun Yeop Lee** Director of Jungsok Research Institute of International Logistics and Trade, Inha University, Korea
- Professor Prem Chhetri RMIT University, Australia

## **Keynote speech** (I)

## "China's Belt-Road Initiative as a Top-level Design"

### Professor Suisheng (Sam) Zhao

University of Denver, USA

## Keynote speech (II)

"The Impacts of Trade Liberalization on Chinese Economy with OBOR"

**Professor Geoffrey Stokes** 

RMIT University, Australia

### **Professor Baogang He**

Deakin University, Australia

## Keynote speech (III)

"Chinese leading scholars and institutions in maritime research"

### **Professor Young-Tae Chang**

Inha University, Korea

## **List of Papers (Abstracts)**

### PAPER TITLE & AUTHOR

Paper	Author(s)
Sovereignty and normative concerns: India's response to China's 'Belt and Road Initiative'	Pradeep Taneja
Crossroads: American Perspectives on China's Belt and Road Initiative	Ken Boutin
The Impacts of Trade Liberalization on Chinese Economy with OBOR	David Hundt
The Political Economy of a Rising China in Southeast Asia: Malaysia's Response to the 'Belt and Road Initiative'	Hong Liu, Guanie Lim
The development of Chinese maritime power under its Belt and Road Initiative	Kevin Li
Overseas Warehouse deployment for cross-border ecommerce in the context of the Belt and Road Initiative	Chan-Juan Liu, Zhi-Hua Hu, Wan-Ying Yao
Port efficiency and international trade in China	Young-Tae Chang, Ahhyun Jo, Kyoungsuk Choi, Suhyung Lee
A Study on the Choice intention of the Korea-China Train Ferry as an embracing strategy of the B&R Initiative in Korea	Kyoung-Suk Choi, Tong-Shui Xia, Paul Tae-Woo Lee
Whither Belt and Road in the South Pacific? Promises and Pitfalls of China's Growing Presence in Papua New Guinea	Chengxin Pan, Matthew Clarke
A comparative analysis of existing and potential corridors between Indian Ocean and China	Lidan Du, Ying-En Ge
Imagining Eurasia as shared heritage: the Silk Roads of the 21st century	Tim Winter
Heat map of Chinese foreign direct investment: assessing strategic alignment with the Belt and Road corridors	Anjali Chhetri, Booi Kam, Seema Narayan, Prem Chhetri, Charlie Huang
China's port investment related to maritime connectivity in the context of the Belt and Road Initiative	Zhi-Hua Hu, Chan-Juan Liu
Hierarchical governance of the going-out strategy of China's ports in the context of the Belt and Road Initiative	Jihong Chen, Yijie Fei, Paul Tae-Woo Lee, Xuezong Tao
China's global investment and maritime flows in the context of the Belt and Road Initiative	Zhi-Hua Hu, Chan-Juan Liu, Lan-Qing Wei, Hui Wang, Fei-Yan Lu
Modelling and vulnerability analysis of the container shipping network in China- a shipping company perspective	Chengpeng Wan, Jing Zhang, Di Zhang
A flexible cargo pick-up and delivery model for performance examination of belt and road corridors	Shahrooz Shahparvari, Behrooz Bodaghi, Prem Chhetri, Paul Tae-Woo Lee, Sung-Ho Shin
Optimization of Empty Container Reposition under the Alliance of Shipping Liners and China Railway Express	Lei Xing, Shujuan Guo, Zhenhua Yang, Zhihong Jin
Risk Evaluation of cold-chain logistics networks between Thailand and Northeast China	Shen Li Xin, Zhu Guoqing, Zhang lirou
and road corridors Optimization of Empty Container Reposition under the Alliance of Shipping Liners and China Railway Express Risk Evaluation of cold-chain logistics networks between Thailand and Northeast	Behrooz Bodaghi, Prem Chhetri, Paul Tae-Woo Lee, Sung-Ho Shin Lei Xing, Shujuan Guo, Zhenhua Yang, Zhihong Jin Shen Li Xin, Zhu Guoqing,

Climate Change, Natural Disasters and Adaptation Investments: Inter- and Intra-Anming Zhang, Kun Wang port Competition and Cooperation Non-cooperation or cooperation: disaster prevention and strategic investment Zixiang Gong for multiple ports in a region Impact of China-Pakistan Economic Corridor on Peace and Security in Pakistan Zahid Ahmed Avoiding difficult choices: A media analysis of the 'Belt and Road' debate in David Hundt, Sooyoung Kim South Korea Analysis of container shipping networks on the 21st-Century Maritime Silk Road Wu Jing, Wan Chengpeng, -An initial research Zhang Di Optimization of Intermodal Transportation Network for Agricultural food Shen Li Xin, Chaw Su Zin between North-East China and Myanmar Yile He, Adolf K.Y. Ng, The attitude of port organizations towards climate change adaptation strategies Anming Zhang, Sabrina Xu The Security of Indian Ocean Sea Lanes: Perspective of the Belt and Road Yuancheng Hu, Min Tu Initiative Young-Tae Chang, Ahhyun Jo, Chinese leading scholars and institutions in maritime research Kyoungsuk Choi

### Sovereignty and normative concerns: India's response to China's 'Belt and Road Initiative'

Pradeep Taneja

<sup>a</sup> Asper \*Corresponding author email:

#### Abstract

The 21st Century Maritime Silk Road is a major component of China's "One Belt, One Road" port infrastructure investment in the foreseeable future under this framework.

#### Key Words:

### Crossroads: American Perspectives on China's Belt and Road Initiative

Ken Boutin

<sup>a</sup> Asper \*Corresponding author email:

#### Abstract

The 21st Century Maritime Silk Road is a major component of China's "One Belt, One Road" port infrastructure investment in the foreseeable future under this framework.

Key Words:

### The Impacts of Trade Liberalization on Chinese Economy with OBOR

David Hundt

<sup>a</sup> Asper \*Corresponding author email:

#### Abstract

The 21st Century Maritime Silk Road is a major component of China's "One Belt, One Road" port infrastructure investment in the foreseeable future under this framework.

**Key Words:** 

### The Political Economy of a Rising China in Southeast Asia: Malaysia's Response to the 'Belt and Road Initiative'

Hong Liu, Guanie Lim

<sup>a</sup> Tan Kah Kee Endowed Chair Professor of Public Policy and Global Affairs at School of Social Sciences, Nanyang Technological University

<sup>b</sup> Guanie Lim is a Postdoctoral Research Fellow at the Nanyang Centre for Public Administration, Nanyang Technological University

\*Corresponding author email: guanie.lim@ntu.edu.sg

#### Abstract

Since its launch in late 2013 by Chinese President Xi Jinping, the "Belt and Road Initiative" has been a significant factor in shaping China's economic and diplomatic relations with the neighbouring countries. While there are many studies pertaining to its origins and characteristics, little attention has been drawn to the responses of Southeast Asia-which constitutes the core of the "21st Century Maritime Silk Road"-to China's initiative and how this strategy has been internalized to serve domestic political agendas of the respective nations. This paper unravels the region's complex patterns of reactions to the "Belt and Road Initiative" through a detailed case study of Malaysia. It shows that Chinese investment is instrumental in reinvigorating the Malaysian economy, especially in the wake of economic challenges facing its leadership. Disputing research that depicts weak states getting overwhelmed by China's financial might, this paper argues that the political elites in a relatively small and weak state such as Malaysia are adept in engaging with Chinese actors to advance key projects, thus furthering their agenda. However, the eventual outcome of this interaction is dependent on three key conditions: fulfilment of Malaysia's longstanding proethnic Malay agenda, a mutual vision between the state and federal authorities, and advancement of geopolitical interests for both China and Malaysia. A typology illustrating various possible outcomes is also put forth to provide some useful guidelines for fellow researchers to better understand how other states, especially those from Southeast Asia, respond to a rising China.

**Key Words:** China, Belt and Road Initiative, Malaysia, Foreign Direct Investment, Infrastructure, Political Economy, Southeast Asia

### The development of Chinese maritime power under its Belt and Road Initiative

Kevin Li<sup>a</sup>, Yi Xiao<sup>a</sup>\*

<sup>a</sup> Department of International Trade and Logistics, Chung-Ang University, Seoul, Republic of Korea.

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#### Abstract

Since China adopted open-door policy, the map of global maritime powers has experienced tremendous change, with a notable shifting of its center from the West to the East. Especially since the inauguration of Belt and Road (B&R) Initiative, China has gained moment a in development its maritime power at a strategic level. Therefore, it would be both timely and useful to develop an evaluation system of maritime power and to identify the strategic areas for enchantment. This study is to set up an evaluation system with Analytic Hierarchy Process (AHP) method combining literature reviews, core concepts evaluation and expert opinions. The system consists of 2 grade I indexes (soft power and hard power), 9 grade II indexes and 45 grade III indexes as marine policy and engagement, marine culture and education, geography, manpower, traffic condition, military resources, merchant resources, fishery resources, marine economy and S&T. Among all elements, different weights has been calculated, e.g., the maximum weight of grade II indexes is military resources (0.358), followed by traffic condition (0.182) and marine economy and S&T (0.164). Finally, with cooperation priorities of the B&R Initiative and the evaluation system, we will examine the contribution of B&R initiative in development of Chinese maritime power and identify the areas for improvement at a policy level.

**Key Words:** Maritime Power, AHP, Belt and Road Initiative, Evaluation System, Maritime Investment.

### Overseas Warehouse deployment for cross-border ecommerce in the context of the Belt and Road Initiative

Chan-Juan Liu<sup>a</sup>, Zhi-Hua Hu<sup>a</sup>\*, Wan-Ying Yao<sup>a</sup>

<sup>a</sup> Logistics Research Center, Shanghai Maritime University, China \*Corresponding author email: zhhu@shmtu.edu.cn

#### Abstract

Overseas warehouse is an efficacy start up for cross-border ecommerce by improving the logistics efficiency and service quality. Reasonable deployment of overseas warehouses can greatly reduce the intermediate links of cross-border transport, reduce freight costs and promote the development of foreign trade, especially the export trade. The aim of this paper is to investigate overseas warehouses deployment for Chinese export products in the context of the Belt and Road based on the data of China's export trade volume and direct investment volume on the Maritime Silk Road between 2010 and 2016. A two-stage site selection model is proposed, which considers both macro and micro factors. The conclusion of this paper can provide the theoretical basis and reference for the overseas warehouses construction of China's cross-border e-commerce platform and export enterprises, as well as the better development of the Belt & Road Initiative.

**Key Words:** overseas warehouse; cross-border ecommerce; import and export; Maritime Silk Road; the B&R Initiative

### Port efficiency and international trade in China

Young-Tae Chang<sup>a</sup>, Ahhyun Jo<sup>a</sup>, Kyoungsuk Choi<sup>b</sup>, Suhyung Lee<sup>a</sup>

<sup>a</sup> Graduate School of Logistics, Inha University, Incheon, Korea

<sup>b</sup> Department of Industrial Organization Management and Control, Shandong Normal University, Jinan, China

\*Corresponding author: ytchang2017@gmail.com

#### Abstract

Ports are vital nodes to facilitating international trade. A few studies in the international trade literature attempted to examine how port efficiencies have contributed to facilitating the international trade. The studies, however, used proxies for the port efficiencies such as transport cost rather than measuring the port efficiency per se, then used the estimated efficiencies to capture the relationship between the efficiencies and international trade at the second stage. This approach is based on the arguments of criticizing three problems of traditional data envelopment analysis (DEA): (1) existing DEA models such as constant-toreturn scale DEA models are not realistic due to the assumption of constant return and radial models; (2) the DEA models do not capture the measure of errors due to non-parametric nature; (3) DEA models tend to be based on cross-sectional data arising from difficulty in collecting panel data. This study develops a new port efficiency measurement and international trade linkage model to contribute to the international trade literature in the following ways. First, this study develops a direct estimating model of port efficiencies, which the existing models could not attempt, but used the proxies instead. Second, the model developed in this study can overcome the three problems of radial limitation, measurement error and cross-section data issue mentioned in the literature. The efficiency model is nonradial non-orientation slacks-based-measurements (SBM) DEA models, therefore, is free from the first problem. Moreover, the model's inherent measurement bias is corrected by bootstrapping technique, which enables us to estimate the inherent bias arising from traditional one shot estimation models. Finally, this study collects panel data to address the cross-sectional issue. The model is applied to major container ports in China and the relationship between port efficiency and international trade is captured by a gravity model using various independent variables referring to the literature. The estimation process is conducted at two stage. The port efficiencies are estimated using the SBM-DEA model at the first stage and the relationship between the efficiencies and the trade is assessed by the

gravity model at the second stage. To this end, data on 28 major container ports in China and international trade between respective ports and their trading countries are collected between 2002 and 2012. The results show the significance of port efficiencies in affecting the international trade.

Key Words: Chinese port efficiencies, international trade, SBM-DEA model, gravity model

### A Study on the Choice intention of the Korea-China Train Ferry

#### as an embracing strategy of the B&R Initiative in Korea

Kyoung-Suk Choi<sup>a</sup>, Tong-Shui Xia<sup>b</sup>, Paul Tae-Woo Lee<sup>c\*</sup>

<sup>a</sup> Business School, Shandong Normal University, China.

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#### Abstract

In 2015, both China and South Korea agreed to jointly study the possibility of combining China's "Belt and Road Initiative" and South Korea's "Eurasia Initiative". China's B&R initiative aims to strengthen economic cooperation with related countries by linking land and sea routes from Central Asia, Southeast Asia and the Middle East to Europe, while Korea's Eurasia Initiative is looking to connect the TKR(Trans Korea Railway)to Europe through TSR(Trans Siberia railway) and TCR(Trans China railway). There is thus considerable overlap between the two strategic visions. In this study, we focused on the Korea-China train ferry as a measure that can efficiently and effectively link these two strategies to bring economic benefits to both countries. Train Ferry is a special ocean vessel designed to connect a railway line to a port and a ship so that trains can be directly loaded and unloaded on a roll on/off basis. By combining maritime and rail transport, the train ferry directly connects two continents separated by ocean by enabling continuous transportation of railways. If the train ferry is established between Korea and China, it will serve as a railroad over the ocean linking Yantai in China and Pyeongtaek Dangjin Port in Korea. The value of the KCTF goes far beyond a mere construction of new transportation means between the two countries; it has the potential to make Korea an integral part of the world's largest economic partnership covering some 64 countries. In other words, the KCTF can extend China's B&R all the way to the Korean peninsula. The future of the proposed KCTF as a new mode of transportation would depend ultimately on the potential consumer. Therefore, unlike existing studies, this study intends to view benefits of the train ferry in terms of the expansion of China's B&R, rather than just on its economic and efficiency merits. It will also identify the key factors that can influence the choice intention of KCTF from the perspective of potential users. To this end, several research hypotheses have been proposed by combining TRA (Theory of Reasoned Action) and TPB (Theory of Planned Behavior) from marketing studies, which are then analyzed using structural equation model.

**Key Words:** Korea-China Train Ferry (KCTF), Belt and Road (B&R) Initiative, Eurasia Initiative, Structural Equation Model (SEM)

### Whither Belt and Road in the South Pacific? Promises and Pitfalls of China's Growing Presence in Papua New Guinea

Chengxin Pan, Matthew Clarke<sup>a</sup>

<sup>a</sup> Ocean College, Zhejiang University, China \*Corresponding author:

#### Abstract

The success of belt and road (B&R) initiative is highly dependent on the size and strategic location of Chinese Foreign Direct Investment (FDI). This study aims to examine the spatial-temporal shift in Chinese FDI Outflows (FDI) from 2004 to 2015 in the B&R context using

Key Words: Foreign

### A comparative analysis of existing and potential corridors between Indian Ocean and China

Lidan Du<sup>a</sup> and Ying-En Ge<sup>a</sup>

<sup>a</sup> College of Transport & Communications, Shanghai Maritime University, Shanghai, China \*Corresponding author email: yege@shmtu.edu.cn

#### Abstract

This work first lists existing and potential corridors between Indian Ocean and China, which have been discussed in the literature and the media. Then we investigate these corridors from the perspectives of investment or maintenance, efficiency, safety, environmental impacts, and capacity. Third, a qualitatively comparative analysis of them is offered. Concluding remarks are presented at the end, including our ongoing work on a quantitatively comparative analysis of them.

Keywords: belt and road, corridor, comparative analysis

### Imagining Eurasia as shared heritage: the Silk Roads of the 21st century

#### Tim Winter<sup>a</sup>

<sup>a</sup> Ocean College, Zhejiang University, China

\*Corresponding author:

#### Abstract

The success of belt and road (B&R) initiative is highly dependent on the size and strategic location of Chinese Foreign Direct Investment (FDI). This study aims to examine the spatial-temporal shift in Chinese FDI Outflows (FDI) from 2004 to 2015 in the B&R context using

Key Words: Foreign

# Heat map of Chinese foreign direct investment: assessing strategic alignment with the belt and road corridors

Anjali Chhetri<sup>a</sup>, BooiKam<sup>b</sup>, Seema Narayan<sup>c</sup>, Prem Chhetri<sup>b</sup>, and Charlie Huang<sup>d</sup>

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<sup>b</sup> School of Business IT and Logistics, RMIT University, Melbourne, Victoria, Australia.

<sup>c</sup> School of Economics, Finance and Marketing, RMIT University, Melbourne, Victoria, Australia.

<sup>d</sup> School of Management, RMIT University, Melbourne, Victoria, Australia.

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#### Abstract

The success of belt and road (B&R) initiative is highly dependent on the size and strategic location of Chinese Foreign Direct Investment (FDI). This study aims to examine the spatial-temporal shift in Chinese FDI Outflows (FDI) from 2004 to 2015in the B&R context using data obtained from United Nations Conference on Trade and Development and the World Bank. Spatial autocorrelation methods are applied to identify and map key hotspots of Chinese FDI globally. A typology is developed to categorise countries into groups to examine these shifts in Chinese FDI over time. Spatial orientation of key hotspots to major logistics hubs such as ports and airports and transport corridors is mapped to examine their strategic positioning and geographic alignment to the Belt and Road initiative. A strategic framework to enhance geographic alignment of emerged FDI clusters along the key B&R corridors is developed to help stimulate trade growth and improve logistics capacity and supply chain efficiency.

Key Words: Foreign Direct Investment, Belt-Road Corridor, Hotspot Mapping and GIS.

# China's port investment related to maritime connectivity in the context of the Belt and Road Initiative

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#### Abstract

Since the Belt and Road Initiative (BRI), what about the mutual impacts between China's global investment and maritime transportation system as a main means for trading? China is believed as an important stakeholder in the BRI, while BRI correlates the countries at least in Asia and Europe. In this study, the China's global investment data categorized by independent economy entity are collected (investment capital, industrial field, country or independent economical entity, etc.); and the maritime flows are generated from the previous study. The country-level mutual relations are formulated and investigated by data-driven geographical methods. It is curious to reveal the degree and tendency of the China's initiative impacting the global investment, also the possible patterns and inertial power of investment on a globally regional initiative. The research results will specially focus on the concerns and contributions of maritime transportation system in promoting investment.

**Key Words:** global investment; maritime transportation flow; network analysis; Maritime Silk Road; the B&R Initiative

## Hierarchical governance of the going-out strategy of China's

ports in the context of the Belt and Road Initiative

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#### Abstract

The Belt and Road (B&R) Initiative is an important strategy for China to participate in the development of economic globalization and regional economic integration. Over the last three decades, remarkable international trade development in China as the world's manufacturing center has promoted the rapid development of China's coastal ports, which play an important role in accelerating her economic development and international trade. From a global perspective, the B&R Initiative will further drive China's ports to go out and participate in the global port construction and operation and to develop global supply chain networks in the context of the initiative. In doing so, major ports of China are actively implementing the going-out development strategy for overseas investment. However, the development level and the core competitiveness of China's coastal ports are different from port by port. Therefore, the going-out strategy for of China's ports should be stratified and implemented gradually on the basis of above two points. This paper evaluates the 14 major coastal ports that the Chinese government has focused on supporting their overseas investment. The 11 evaluation indexes are determined from two dimensions, i.e., the existing development conditions of ports and the economic strength of port cities. Fuzzy clustering method is used to evaluate and classify the development of the above-mentioned coastal ports in China and to develop the reasonable implementation mode of the going-out strategy of these ports. Hierarchical governance framework is designed and future directions are developed to illustrate how to implement the going-out strategy reasonably. This research contributes to providing new ideas and information to the policymaker and stockholders in the China's port industry in handling the going out problem. Consequently, it will help stakeholders in China alleviate the risk of overseas investment and strengthen the management of overseas cooperation of China's ports along the B&R.

**Key Words:** Belt and Road (B&R) Initiative; hierarchical governance; fuzzy clustering; China's port; going-out strategy

### China's global investment and maritime flows in the context of the Belt and Road Initiative

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#### Abstract

Over sea infrastructure investment and construction plays an important role in the actions of the Belt and Road Initiative. As for the 21st century Maritime Silk Road, maritime port investment has been imposed great concerns on the Maritime Silk Road in the recent years. In this study, the port investment data are collected primarily from Internet and compiled as the first stream of data. To investigate the relations with and implications from the present maritime shipping network, the second stream of data is generated from our previous study, as the connectivity data of the Maritime Silk Road. So, what are the connections between the port investment in the Maritime Silk Road and the existing maritime shipping network? After a series of technological analysis by using the data and network science tools, the implications for port investment and further Belt and Road investment are analyzed. The results of this paper can provide theoretical basis and suggestions for China's maritime port investment along the Maritime Silk Road, which is conducive to promoting the development and construction of the Belt and Road Initiative.

**Key Words:** port investment; shipping network connectivity; complex network; the Maritime Silk Road; the B&R Initiative

### Modelling and vulnerability analysis of the container shipping network in China- a shipping company perspective

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#### Abstract

In 2013, The One Belt and One Road (OBOR) initiative was introduced by the Chinese government to promote the multilateral cooperation between China and the associated countries, in which the port construction of fifteen coastal cities of China (such as Shanghai, Tianjin, Shenzhen, and Guangzhou, etc.) have been emphasized in order to strengthen the maritime cooperation with ASEAN countries and jointly build secure and efficient transportation routes connecting major seaports along the Belt and Road. As an important component, container shipping is responsible for the majority of the transported cargo in the global maritime logistics system. Taking the COSCO Shipping Lines Co., Ltd. (one of the top five shipping companies in the world) as a case study, this paper applies both primal approach and the dual approach to model the container shipping networks, and compare the network characteristics such as their average degrees, average path length, and average clustering coefficient, of the container shipping networks modelled with different approaches using complex network theory. Furthermore, the vulnerability analysis under targeted attacks is conducted to measure the importance of ports and nodes within a container shipping network. The results of the study can provide helpful information for the risk management, route planning, and emergency preparedness of container shipping networks for shipping companies. The proposed methods and analytical approaches can also provide a reference to network characteristics analysis in other fields of application.

**Key Words:** the Belt and Road (B&R) Initiative; container shipping; network analysis; vulnerability

### A flexible cargo pick up and delivery model for performance examination of belt and road corridors

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#### Abstract

The "Silk Road Economic Belt and the 21st-Century Maritime Silk Road" (Belt & Road: BR), initiated by the Chinese government in 2013, is likely to drive infrastructure development, shift in trade patterns and improve international logistics operations globally. This paper aims to develop a synchromodal multi-objective mathematical model to evaluate and compare the logistics and environmental performance of three key B&R corridors representing different transportation modes, linking the strategic nodes in China with Europe. This model uses a pick-up and delivery concept to transport containers considering the shipment size (number of cargos to be picked up) and time window for each delivery service. Three different transportation modes, namely marine (ship), rail (train), and road (truck) are considered to transfer containers via three OBOR corridors. To implement the synchromodal model, a case study network containing the number of ordered containers and delivery time is developed. The model generates the optimal number, load, schedule and an energy efficiency factors to compare the performance of different vehicles and routes on four key criteria including carbon emission, modal risk, capacity and lead time. Analytical results can offer the deployment of different shipment strategies to help optimising logistics and transportation decisions in the B&R context.

**Key Words:** Belt-Road corridor, multi-objective model, energy efficiency, pick-up and delivery model.

## Optimization of Empty Container Reposition under the Alliance of Shipping Liners and China Railway Express

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#### Abstract

Empty container reposition has always been the focus of the container shipping industry. Currently, the reposition of empty containers is accomplished mainly by shipping liners. In 2013, the "Belt and Road Initiative" was proposed. Besides the traditional shipping liner routes from China to Europe, the China Railway Express (CR Express) has been successively launched to construct an international land cargo route. By November 17, 2017, a total of 6,000 outbound and inbound journeys had been made on the land routes. Firstly, this paper studies the problem of empty container reposition under the shipping liner mode and CR Express mode, respectively. Empty container reposition optimization models are constructed to minimize the total cost for these two modes separately. Then, the empty container reposition optimization model of the alliance mode combining the shipping liner and railway trains modes is constructed, based on the analysis of the process of the empty container turnover. The superiority of the alliance mode is verified and the influences of different factors on the empty container reposition cost under the alliance mode are analyzed through numerical analysis.

Key words: Empty container reposition; Belt and Road; Alliance mode

## Risk Evaluation of cold-chain logistics networks between Thailand and Northeast China

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#### Abstract

Currently, Chinese central government offers preferential policies, namely "Free Trade Area in Liaoning Province" and "The Cooperation between developed cities in the southeastern part of China and developing cities in Northeast China", etc. Chinese government attaches much importance on promoting economic development in the Northeastern area of China, known as China's Old Heavy Industrial Base and Big Granary, where it has become one of the most potential regions for the development of economy in China.

With the advancement of "One Belt and One Road" policy and the establishment of China-ASEAN Free Trade Area (CAFTA), Sino-Thai bilateral trade has been increasing continually. Thailand is famous for its rich tropical agricultural products. There has been frequent trading between Thailand and some big cities in the southern parts of China. With the development of cross-border e-commerce, transaction data shows that there is an increasing demand from the Northeastern area of China for Thai fruits and vegetables. Meanwhile, Thailand also imports massive grains and heavy industrial products like automobiles from Northeast China. Therefore, Optimizing the intermodal transportation between Northeast China and Thailand is vital for the trade.

In this paper, the cold-chain logistics networks of intermodal transportation from Thailand to Northeast China, mainly includes three modes of transportation (sea, land and air transportation), are analyzed. Based on AHP+ER method (Analytic Hierarchy Process and Evidential Reasoning), the risk evaluation of the existing cold chain logistics networks of intermodal transportation between Northeast China and Thailand is carried out. Finally, according to the evaluation results, the optimised logistics design is provided.

**Key Words:** Sino-Thai Bilateral Trade; Cold-Chain Logistics; Intermodal Transportation; Evidential Reasoning; Risk Evaluation

## Climate Change, Natural Disasters and Adaptation Investments: Inter- and Intra-port Competition and Cooperation

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#### Abstract

and Thailand is carried out. Finally, according to the evaluation results, the optimised logistics design is provided.  $\langle$ 

**Key Words:** Sino-Thai Bilateral Trade; Cold-Chain Logistics; Intermodal Transportation; Evidential Reasoning; Risk Evaluation

## Non-cooperation or cooperation: disaster prevention and strategic investment for multiple ports in a region

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#### Abstract

Seaports, as linking nodes between shipping and inland transport, have become critical to world economy, with the growth of maritime transportation. However, the port system is very fragile under some unconventional emergency events. This study addresses the issue of investment on disaster prevention within the context of port competition. The model discusses and compares four situations of different relationships and strategies of pre-disaster prevention between two adjacent ports. Results indicate that both ports increase the disaster prevention investment under the cooperation scenario compared with that in the case of non-cooperation where they are complementary ports. Meanwhile, a numerical simulation is conducted to examine the collective and individual rationality of both ports. Although cooperation strategy decreases the total risk cost of two ports, one of the two ports may profit, while the other may suffer losses.

Keywords: Pre-disaster investment; Unconventional emergency events; Port disruption

## Impact of China-Pakistan Economic Corridor on Peace and Security in Pakistan

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#### Abstract

The success of belt and road (B&R) initiative is highly dependent on the size and strategic location of Chinese Foreign Direct Investment (FDI). This study aims to examine the spatial-temporal shift in Chinese FDI Outflows (FDI) from 2004 to 2015 in the B&R context using

Key Words: Foreign

## Avoiding difficult choices: A media analysis of the 'Belt and Road' debate in South Korea

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#### Abstract

This paper analyses media reports in South Korea about the Belt and Road Initiative (BRI) in order to ascertain how the initiative has been covered. It explains variation in the tone of reporting, the themes of the coverage, and narratives within media reports about the BRI. The tone of the South Korean media's coverage of the BRI has been quite positive overall, but adverse geopolitical developments have intermittently resulted in a re-evaluation of the initiative. The media has emphasized certain themes, such as the BRI's implications for the respective positions of the United States and China, and the future of North Korea, quite consistently. Interpretation of these themes has varied quite significantly, however, and the most media coverage has tended to be less alarmist than the comparable academic literature on this topic. The media's narratives about the BRI have generally been constructed in sober and nuanced terms, and have rarely depicted the issue in 'either/or' terms. As presented by the South Korea media, the BRI is a significant element of China's re-emergence in regional and global affairs, but not necessarily detrimental to South Korea's interests.

## Analysis of container shipping networks on the 21st-Century Maritime Silk Road –An initial research

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#### Abstract

In 2013, The One Belt and One Road (OBOR) initiative was introduced by the Chinese government to promote the multilateral cooperation between China and the associated countries, in which the port construction of fifteen coastal cities of China (such as Shanghai, Tianjin, Shenzhen, and Guangzhou, etc.) have been emphasized in order to strengthen the maritime cooperation with ASEAN countries and jointly build secure and efficient transportation routes connecting major seaports along the Belt and Road. As an important component, container shipping is responsible for the majority of the transported cargo in the global maritime logistics system. Taking some world leading shipping companies and Chinese local shipping companies which provide service for the MSR areas as the information source, this paper tries to establish a database for future network analysis of maritime container transportation on the 21st-Century Maritime Silk Road (MSR).In addition, the ports and shipping routes being involved are categorized into different groups and analyzed accordingly. More importantly, the potential usage of the database is discussed, and a future research agenda on safety management of container shipping networks on the MSR is proposed.

**Keywords:** the Belt and Road (B&R) Initiative; Container shipping; Database; Research agenda

## Optimization of Intermodal Transportation Network for Agricultural food between North-East China and Myanmar

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#### Abstract

Myanmar is an agricultural country with fruitfulness of natural resources. About 70% of country's agricultural food(AF)export to China every year. Myanmar's trade with China is heavily concentrated in cross-border trade which exports to Yunnan Province and southern parts of China. There is only a fewer portion of AF export to North-East (NF) China three provinces (Heilongjiang, Jilin, Liaoning). NE China is the most potential market as it boasts important industrial hubs, automobile and heavy industry which are compulsory products for developing countries like Myanmar. Central government increase supports for NE region's economic growth and offer special policies to facilitate regional development(eg. Liaoning Self Free Trade Zone). The establishment of bilateral international trade flow between NE china and Myanmar will become the new market trends under one-belt-one-road. Thus, optimizing the intermodal transportation between NE China and Myanmar is vital for the trade.

In this paper, the current trade situation of NE China and Myanmar is analyzed and we have found that no efficient and effective routes occur between two countries. This paper will present an intermodal network optimization model of freight moving between NE China and Myanmar by using transportation modes of rail, road and sea. Intermodal transportation network will be designed by goal programming to minimize transportation cost, transit time and transit variability. In addition, case analysis are used to show the efficiency and feasibility of the proposed model.

**Key Words:** Intermodal Transportation Network Optimization, Agricultural Food, North-East China and Myanmar, Goal Programming.

## The Attitude of Port Organizations Towards Climate Change Adaptation Strategies

Shen Li Xin, Chaw Su Zin

Yile He<sup>a,b\*</sup>, Adolf K.Y. Ng<sup>b,c</sup>, Anming Zhang<sup>b,c</sup> and Sabrina Xu<sup>c</sup>

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#### Abstract

It is well-known that climate change poses a serious risk to human activities and lives. As an important transportation node of global supply chains, ports are vulnerable to the impacts posed by climate change, notably sea-level rise and storm surge, that without appropriate measures can cause significant losses to the global economy. Thus, there is an urgent need for a better understandings of the attitude of port organizations to climate adaptation strategies so as to facilitate the application of climate adaptation strategies. By focusing on Chinese ports, the present paper examines the attitude of various stakeholders in a port organization towards climate adaptation planning and strategies. The findings suggest the port organizations believe that most climate adaptation strategies cannot reduce the vulnerability posed by climate change risks and impacts. Further, the factors affecting respondents' attitude are partly revealed.

Key Words: Climate change; Port; Adaptation; China; Attitude; Organizational perspective

#### The Security of Indian Ocean Sea Lanes: Perspective of the Belt

#### and Road Initiative

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#### Abstract

"The Belt and Road Initiative" (OBOR) aims to establish a large regional cooperation platform linking Asia and Europe, taking China as the core and westward development by sea and land. In 2016, the value of import and export trade among China and other countries along OBOR achieved 6.3 trillion RMB, grew by 0.6% compared with the same period last year, and accounted for 25.9% of China's total volume of import and export trade. As the link between Pacific and Atlantic, India ocean connects Asia, Africa and Oceania. Here, located almost 1/9 seaports in the world, completed the 1/5 cargo throughput, and 3 main international energy transportation routes pass through it. It is the only way for China to build the 21st Century Maritime Silk Road, and its security is directly related to the safety of China's trade channels, energy channels and strategic channels. The security of the India ocean sea lanes (SIOSL) is still threatened by the factors such as major powers from India, the United States and others, the political situation along the sea lanes, piracy and maritime terrorism. From 2005 to 2009, there are 416 pirate trials in the Somali sea and Gulf of Aden in the western India ocean, while from 2011 to 2015, there are 394 maritime accidents in the Malacca Strait in the east of India Ocean. Economic losses caused by piracy alone are as high as 130-160 RMB per year, political influence is mainly reflected in regional conflicts and political instability, meanwhile, marine pollution and ecological destruction also bring great negative social impact. Study on SIOSL has important practical significance, especially to ensure the shipping safety, to promote 21st Century Maritime Silk Road, and to realize the OBOR finally. The strategic position and role of the Indian Ocean in OBOR is firstly analysed in this paper. Secondly, the security situation of India ocean sea lanes is summarized, including main ports, routes, pirate trials, maritime accidents and etc. Thirdly, the security influence factors on ocean sea lanes is find out to establish the index system concerning environment, sea routes and management. Fourthly, the structural equation model for security evaluation on Indian Ocean Sea Lanes is built up to discuss the hidden dangers in Indian Ocean Sea Lanes. Finally, some suggestions and measures to ensure the security of India ocean sea lanes are put forward.

Key Words: Security; Sea Lanes; Indian Ocean; the Belt and Road

#### Chinese leading scholars and institutions in maritime research

Young-Tae Chang<sup>a</sup>, Ahhyun Jo<sup>a</sup>, Kyoungsuk Choi<sup>b</sup>

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<sup>a</sup> Department of Industrial Organization Management and Control, Shandong Normal University, Jinan, China

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#### Abstract

The maritime industry has substantially contributed to the world economy in recent decades. The resulting industrial growth has brought about numerous problems that are worthy of research, which in turn, have attracted the interest of academics. The maritime transportation has subsequently grown as a unique academic field. China play a pivotal role to facilitating international trade via its numerous hub seaports as most of top ranking container ports in the world are located in China. Against this backdrop, it is now timely to identify the most active researchers, and institutions in China for maritime research and to investigate whether their academic research works are equivalently recognized in the literature as importantly as the role of their industry counterpart. This paper examines China's top 50 authors, and affiliations, in the maritime transportation field in comparison with their world ranking. China in this paper refers to a broad sense of pan-Chinese economies including not only mainland China and Hong Kong, but also Taiwan and Singapore as there are close collaboration and trade relationships in these economies both in industry and academia. The analysis covers articles published in 65 SSCI and SCI journals in maritime and transportation over sixteen years from 2000 to 2015. Three indicators are used for ranking: number of papers, the weighted score that reflects the contribution of the authors, and the impact score which considers the impact factor. Temporal changes of ranking are examined in five-year intervals. The potential correlation between methodological popularity and author performance is also discussed. The results show China's top 50 leading scholars and institutions over the entire period and also every five years period to show inter temporal dynamics in the rankings. Moreover, China's contribution to the literature is compared in the world context. Finally methodological preferences by China's researchers are compared with the ones by world researchers.

Key Words: China; leading scholars; institutions; maritime research; ranking

## **Closing remark**

## » Closing remark by Professor Paul Tae-Woo Lee

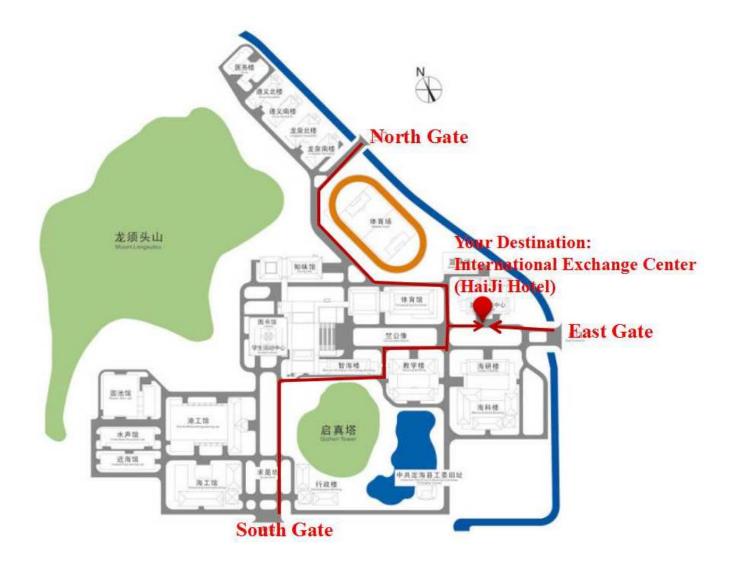
Ocean College, Zhejiang University, China

### **Professor Baogang He**

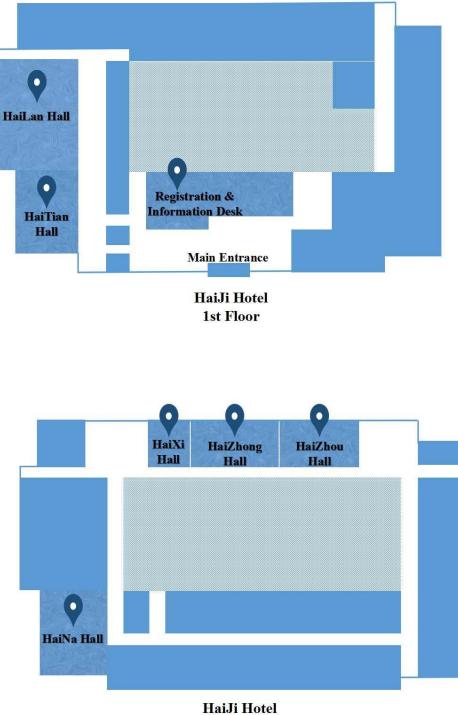
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# Information

### **Campus map**



## Haiji Hotel floor information



2st Floor

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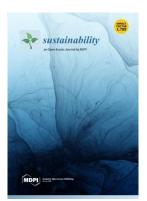
# Special Issues of Associated Journals

#### • Sustainability (SSCI)

Special Issue on "Sustainability Issues in Shipping and Port Management, and Maritime Logistics"

#### **Guest Editors:**

Paul Tae-Woo Lee, Ocean College, Zhejiang University, China Oh Kyoung Kwon, College of Business, Inha University, Korea Xiao Ruan, Ocean College, Zhejiang University, China



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