IEIS2023

Final Program

10th International Conference on Industrial Economics System and

Industrial Security Engineering

25-28 July, 2023

Hosted by
IEEE SMC Technical Committee on Logistics, Informatics and Industrial Security Systems
National Academy of Economic Security of Beijing Jiaotong University, China
The International Center for Informatics Research of Beijing Jiaotong University, China
China Center for Industrial Security Research of Beijing Jiaotong University, China
School of Economics and Management of Beijing Jiaotong University, China

In cooperation with
The Hong Kong Polytechnic University, China
Informatics Research Centre, University of Reading, UK

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K. C. Wong Education Foundation (Hong Kong)
Sino-EU Doctoral School for Sustainability Engineering (Program in Logistics, Information, Management and Service Science)
Beijing Logistics Informatics Research Base
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Foreword

Welcome to participate in the conference of the 10th International Conference on Industrial Economics System and Industrial Security Engineering (IEIS2023). The conference is hosted by IEEE SMC Technical Committee on Logistics Informatics and Industrial Security Systems, China National Academy of Economic Security of Beijing Jiaotong University, The International Center for Informatics Research of Beijing Jiaotong University (ICIR), China Center for Industrial Security Research of Beijing Jiaotong University (CCISR), and School of Economics and Management of Beijing Jiaotong University (SEM), in cooperation with The Hong Kong Polytechnic University, China, Informatics Research Centre, University of Reading, United Kingdom, and supported by IEEE SMC, K. C. Wong Education Foundation (Hong Kong), Sino-EU Doctoral School for Sustainability Engineering (Program in Logistics, Information, Management and Service Science), Beijing Logistics Informatics Research Base, Beijing Laboratory of National Economic Security Early-warning Engineering and Key Laboratory of Logistics Management and Technology of Beijing.

This conference is to provide a forum for scholars and practitioners in the world to discuss the problems in industrial economics and industrial security theories and practices. It aims to provide insights in solving the problems in national economy, social development and economic security. The conference has two simultaneous tracks, which cover different aspects and include: "*industrial economics*" and "*industrial security*". Papers in each track describe state-of-art research works that are often oriented towards real world applications and highlight the benefits of related methods and techniques for the emerging field of industries. The conference theme is "industrial development, industrial security and national economic security under the background of globalization"

Many people have made dedicated efforts for the conference, we would like to take this opportunity to give our grateful thanks for them. First, we would like to thank the authors, whose research and development efforts are recorded here. Second, we thank the members of the program committee and the additional reviewers for their valuable help with their professiona reviewing of all submissions. Third, we thank the invited speakers for their invaluable contribution and the time for preparing their talks. Many thanks are given to the colleagues from Beijing Jiaotong University, The Hong Kong Polytechnic University for their hard work in organizing this event.

We wish you all enjoy an exciting conference and an unforgettable stay in Hong Kong, China or in Beijing, China. We hope to meet you again next year for the IEIS2024, and the details will soon be available at http://icir.bjtu.edu.cn/ieis2024.

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Opening ceremony

Hongkong, China
Wednesday, 26 July, 2023
08:30-08:50 (Local Time)
Room FJ301
The Hong Kong Polytechnic University, Hong Kong, China

China
Wednesday, 26 July, 2023
08:30-08:50 (Local Time)
Room SD821
Beijing Jiaotong University Siyuan East Building, Beijing Jiaotong University

Keynote Lectures

The universal set theory of big data with its application

Xuewei Li

Professor, Beijing Jiaotong University

With the rapid development of information technology, analyses and calculations based on big data need to consider universal factors. There are still some problems to be solved in the application of Big data, such as the relevant theories of big data application need to be broken through, the target scenario (pedigree) of big data application needs to be studied, the AI mode and algorithm system of big data applications need to be innovated and the "decentralized" application technology mechanism need to be innovated. We proposed the big data universal set model to provide new ideas for the linkage of Big data. We defined the various basic operations of the universal set by analyzing the properties of set elements, the description method, the relationship with the AI algorithm system, and the factor fields of the universal set data. Further, based on the data description model of the universal set, for data barriers—a typical bottleneck—we developed a universal data linkage coordination method based on the idea of multi objective optimization. Then, using rail transit safety chain data as a real-world example, we simulated the linkage analysis process for safety risk factor data based on universal set theory. In this way, this study proposes a feasible strategy for applying universal set theory to big data.

Xuewei Li, Vice Chairman of Transportation Branch of China System Engineering Society, Professor of Beijing Jiaotong University, President of China Russia Jiaotong University Presidents Union (Chinese side), and President of Eurasian Association of Transportation Universities. In recent years, he led his team to make important achievements in key technologies of Big data, high-speed rail safety, intelligent transportation and other fields, and won the second prize of the 10th Wu Wenjun Artificial Intelligence Science and Technology Progress Award. He has presided over more than 10 national and provincial and ministerial research Science Institute, and published more than 10 books. Besides, he has published over 60 papers in important journals and conferences, such as the Journal of Forecasting, Chinese Science Bullitin, Electronic Science, Chinese Soft Science, Quantitative and Technological Economics, Control and Decision Making.

Value Cocreation through Transformation to Digital Ecosystems

Kecheng Liu

Director of Digital Talent Academy, Henley Business School, University of Reading, UK

Businesses are increasingly recognising the power of value co-creation in driving innovation and growth. An important question facing business leaders is whether organisations can embrace the potential of value co-creation within business partnerships, enabled by the transformation of traditional businesses into digital ecosystems. This keynote will explore the notion of value co-creation, emphasising active collaboration and involvement of partners and customers. It will illustrate how businesses can leverage digital solutions and platforms to create interconnected ecosystems, where partners and customers collaborate and contribute their capabilities, resources, and active participation in the value network. The keynote will emphasise the critical role of digital talent and leadership in fostering a collaborative culture, building trust among partners, and leveraging digital transformation to optimize business competitiveness and value co-creation. Attendees will gain valuable insights into the opportunities and challenges presented by value co-creation in digital ecosystems, providing them with a guidance for nurturing and developing digital talents and leadership capabilities.

Kecheng Liu, Fellow of British Computer Society and Senior Fellow of Higher Education Academy, is Professor of Applied Informatics at University of Reading, and also serves as Director of Digital Talent Academy in Henley Business School. In his various roles of academic lead, senior advisor and consultant, his industrial projects and business consulting experience spread in areas of business and IT strategies, information management, and digital leadership and transformation in public and private sectors. As a prominent researcher, he has published 300 papers in journals and conferences and 25 books in organisational semiotics, business and IT strategy alignment, intelligent spaces for working and living, and business informatics (e.g. big data analytics and AI for healthcare). He has extensive experience in management and leadership from the research project and centre, school to university level where he has been responsible for various aspects such as academic development, staffing, student experience, collaboration and outreach, strategic planning and execution in UK, Europe, China and beyond.

Ring road investment, cordon tolling, and urban spatial structure: Formulation and a case study

Zhichun Li

Professor, School of Management, Huazhong University of Science and Technology

Ring roads, as candidate cordons, provide a convenient condition for implementing cordon tolling schemes. This paper presents a methodology for investigating the ring road investment and cordon tolling problems in a congested ring-radial city. A two-dimensional urban system equilibrium for a ring-radial city is first formulated, in which interactions among stakeholders, including the authorities, property developers, households and commuters, are explicitly considered. Two social welfare maximization models for optimizing the ring road investment and cordon tolling schemes, a short-sighted and a far-sighted one, are then proposed. In the short-sighted model, the ring road investment decision is first made, and then the cordon tolling scheme is optimized based on the determined ring road locations as candidate cordons. However, in the far-sighted model, a simultaneous decision of the ring road investment and cordon tolling is made. The proposed models explicitly incorporate the estimation of the intra-area travel. A case study applied to the city network of Chengdu China shows that ring road investment and cordon tolling can reshape the urban spatial structure as a result of the tug-of-war between the dispersion effects due to ring road investment and the concentration effects due to cordon tolling. The far-sighted solution entails building more ring roads than the short-sighted solution, and is closer to the social optimum solution. Whether all ring roads are tolled, or just one, the far-sighted solution yields an appreciably higher welfare gain. The optimal single-cordon tolling scheme performs nearly as well as the optimal multi-cordon tolling scheme in terms of the social welfare. Ignoring the household residential relocation behavior leads to underestimates of total cordon toll revenue and welfare gain.

Dr. Li is a professor of Transport Operations in the Huazhong University of Science & Technology, China. He was awarded as Cheung Kong (Changjiang) Scholar from Ministry of Education China (2016) and Distinguished Young Researcher from NSFC (2015), respectively. His research interests include transportation modeling, transportation infrastructure investment decision, travel demand management, and public transportation. He is a recipient of the 2008 National Excellent Doctoral Dissertation Award of China, and of the 2009 New Century Excellent Talents in University of China, Ministry of Education of China. He is also a recipient of the 2009 HKSTS (Hong Kong Society for Transportation Studies) Outstanding Dissertation Paper Award and Gordon Newell Memorial Prize. He has published over 70 SCI/SSCI journal papers in such journals as Transportation Research A-E, Transportation Science, Transportation, European Journal of Operational Research, and Regional Science and Urban Economics. 21 papers have been published in top journal Transportation Research Part B (TR-B). He is currently editorial advisory board members of Transportation Research Part E and International Journal of Sustainable Transportation (SSCI journal), and an Associate Editor

of Transportmetrica B (SCI journal), Journal of Advanced transportation (SCI journal), and Transport Policy (SSCI journal).

Emerging Trends in the field of Transportation and the Environment

Ying-En Ge

Professor, Co-Editor-in-Chief, Transportation Research Part D: Transport & Environment, College of Transportation Engineering, Chang'an University, Xi'an, Shaanxi, China

Environmental issues of transportation and their governance have received an ever-increasing attention in the recent years and this trend will continue. This talk first gives an overview of the transport and environment problem. Then it will present those topics related to vehicles, roads or transportation infrastructure, travelers, and carbon in the field of Transportation and the Environment, which aims to show emerging trends in this field.

Dr Ying-En Ge, since September 2022, has been Professor of the College of Transportation Engineering at Chang'an University, Xi'an, Shaanxi, China. His primary academic interests include transport modeling and analysis, transport & environment, international transportation and logistics, and operations and management of ports & shipping. He worked in the Europe and in the USA for more than 10 years and currently serves as Co-Editor-in-Chief for Transportation Research Part D: Transport and Environment and Associate Editor of Transport and is a member of the editorial boards of International Journal of Sustainable Transportation, Transport Policy, Maritime Transport Research, etc. He also served as associate editor for Maritime Policy & Management for 2018-2023. His research has been funded by the UK's Engineering and Physical Sciences Research Council, NSF of China, Lloyd's Register Foundation, etc. His publications appear mainly in Transportation Science, Transportation Research Parts A-E, Maritime Policy & Management, Networks and Spatial Economics, Transportmetrica, as so on.

Data-Driven Decision Analysis in Operations Management

Max Zuojun Shen

Professor,Vice-President and Pro-Vice-Chancellor (Research)，Chair Professor in Logistics and Supply Chain Management

In our daily operations, we are confronted with a vast ocean of data containing historical observations of various uncertain variables, such as daily demand for products and information about product type, color, and other characteristics. This massive amount of data provides a whole new opportunity to solve real-world decision-making problems by depicting uncertain behavior under unknown probability distributions. With the help of feature information, machine learning tools have become indispensable for realizing high-quality data-driven solutions. Currently, many data-driven decision-making frameworks skillfully incorporate machine learning elements and have demonstrated excellent applicability and effectiveness in various real-world decision-making contexts, such as inventory management, COVID outbreaks, and power systems. In this report, we will illustrate the application of data-driven decision analytics in the operational management of different real-world problems through several real-world case studies.

Concurrent with his role as Vice-President and Pro-Vice-Chancellor (Research) of the University of Hong Kong (HKU), Professor Shen is appointed as Chair Professor jointly in the Faculty of Engineering (Industrial and Manufacturing Systems Engineering) and the Faculty of Business and Economics. Professor Shen obtained his PhD from Northwestern University, USA in 2000. He started his academic career as Assistant Professor at the University of Florida in the same year, and joined the University of California, Berkeley in 2004, where he rose through the academic ranks to become Chancellor's Professor and Chair of the Department of Industrial Engineering and Operations Research and Professor of the Department of Civil and Environmental Engineering. He was also a Centre Director at the Tsinghua-Berkeley Institute in Shenzhen and an Honorary Professor at Tsinghua University, China. Professor Shen joined HKU in 2021. With research interests in the areas of logistics and supply chain management, data-driven decision making, and system optimization, Professor Shen's research programmes cut through businesses, energy systems, transportation systems, smart city, healthcare management, and environmental protection. He has worked closely with industries and has a strong track record of securing major research grants from government agencies and private companies. PhD students he graduated now hold positions in top universities in North America, Europe, and China as well as in leading technological companies worldwide. Internationally recognized as a top scholar in his field, Professor Shen is a Fellow of the Institute for Operations

Research and the Management Sciences (INFORMS), the President-Elect of the Production and Operations Management Society (POMS), and a past President of the Society of Locational Analysis of INFORMS.

Time-dependent decisions in hub location and routing

Francisco Saldanha da Gama

Sheffield University Management School, UK

This presentation discusses the relevance of considering time-dependent decisions in the context of hub location and routing problems. Instead of setting up the entire system at once, a planning horizon partitioned into several periods is considered during which the system is to be phased-in. In addition to installing hubs, decisions are also to be made concerning the hub-level network, namely, the hub edges to use. The origin-destination flows are assumed to be time-dependent as well as the costs underlying the problem which include, set up costs for hubs and hub edges and variable operational costs at the hubs. A mathematical model is discussed for the problem that can be solved up to proven optimality with a general-purpose solver for small instances of the problem. For larger instances, a four-phase matheuristic that combines principles of relax-and-fix, variable neighborhood descent and local branching schemes is proposed. In addition, two variants of the matheuristic have been developed. The above model and methodology are tested using data generated by extending existing hub location instances to our problem. The obtained results are detailed and analyzed in depth. The major conclusion is that by capturing time in the decision-making process, one may find solutions that better hedge against parameter changes throughout time. Furthermore, the overall procedure presented in this work is quite general in the sense that it can be easily adapted to other multi-period decision making problems and different objective functions.

Francisco Saldanha da Gama is Chain in Supply Chain Management at Sheffield University Management School (UK). He has a large teaching experience both in terms of undergraduate and post-graduate programs focusing on the fields of Operations Research and decision making under uncertainty. He has published extensively in scientific international journals mostly in the areas of location analysis, supply chain management, logistics, and combinatorial optimization. He has co-edited the two editions of the "Location Science" volume published by Springer. He has presented more than 150 contributed talks at scientific events being invited to innumerable scientific events as a plenary/semi-plenary/keynote speaker. He has been awarded several prizes and honors. He is a member of various international scientific organizations such as the INFORMS, the European Chapter on Combinatorial Optimization, the Working Group on Stochastic Optimization, and the EURO Working Group on Locational Analysis of which he is one of the past coordinators. Currently, he is the Editor-in-Chief of Computers & Operations Research as well as a member of the Editorial Advisory Board of the Journal of the Operational Research Society (UK), Operations Research Perspectives, Algorithms, and Social Sciences & Humanities. His research interests include supply chain management, Logistics, decision-making under uncertainty, and project scheduling.

Delivering Restaurant Sales Through Last-mile Delivery Platform Partnerships

Martin Dresner

Professor, Chair of the Logistics, Business and Public Policy Department, R.H. Smith School of Business, University of Maryland, USA.

This study investigates the impact of partnerships with last-mile delivery platforms, such as Doordash and Uber Eats, on the direct-channel sales of restaurant chains in U.S. cities. Using a proprietary dataset that tracks spending at restaurants by over 6 million individuals in the U.S., we find that delivery platform partnerships have a positive impact on restaurant direct-channel sales. Moreover, a restaurant chain's online focus and physical store presence both positively moderate the impact of platform partnerships on direct-channel sales, thereby increasing the value proposition of the partnerships. Our analysis shows that the increased direct restaurant sales can be decomposed into two components: greater purchase frequency and larger basket size. This study provides insights into the benefits of last-mile delivery partnerships and highlights the importance of a restaurant's online and physical presence in maximizing the value of these partnerships.

Martin Dresner has served on the faculty of the University of Maryland's R.H. Smith School of Business since 1988 where he is Professor and Chair of the Logistics, Business and Public Policy Department. He has two areas of research, air transport policy and supply chain management. Professionally, Dresner is Chair of the Air Transport Research Society (ATRS) and is on the Scientific and Steering Committees of the World Conference of Transportation Research Society (WCTRS). He serves as Senior Editor for the Journal of Business Logistics.

Combining Booking and rationing strategies for equitable travel demand management Abstract

Hai Yang

Chair Professor, Department of Civil and Environmental Engineering, The Hong Kong University of Science and Technology

Trip booking and traffic rationing have been proposed as two alternative travel demand management (TDM) strategies over the last two decades. Through artificially restricting demand (vehicle travel) by booking or rationing the scarce road capacity during the peak periods, the negative externalities generated by travel demand over available supply or road capacity can be reduced. In many cases, the two strategies also have the main goal of reduction of air pollution. Trip booking system allows vehicles/drivers to reserve prescribed areas or some lanes/segments of freeways/roads for their use during specific time periods, thereby maintaining a certain level of service of the roadway space. It is often in the form of a permit to control the number of reservations issued. On the other hand, traffic rationing is often achieved in reality through restricting access into an urban cordoned-off area or city center based on the last digits of the license number on pre-established days and during certain periods, usually the peak hours. However, theoretical studies and practical implementation of the two strategies have been conducted separately. Taking their advantages, this paper proposes and demonstrates a novel hybrid strategy of booking cum rationing for efficient and equitable TDM. We show that the problem of interest can be simply formulated as a convenient linear programming problem in a general network. Simple examples are provided to elucidate how this hybrid strategy can achieve a traffic flow distribution pattern prescribed by the traffic planner while maintaining the fairness, efficiency, and flexibility of individual choices.

Prof. Hai Yang is currently a Chair Professor at The Hong Kong University of Science and Technology. He is internationally known as an active scholar in the field of transportation, with more than 300 papers published in SCI/SSCI indexed journals and a SCI H-index citation rate of 69. Most of his publications appeared in leading international journals, such as Transportation Research, Transportation Science and Operations Research. Prof. Yang received a number of national and international awards, including 2020 Frank M. Masters Transportation Engineering Award and 2021 Francis C. Turner Award of American Society of Civil Engineers; National Natural Science Award bestowed by the State Council of PR China (2011). He was appointed as Chang Jiang Chair Professor of the Ministry of Education of PR China and served as the Editor-in-Chief of Transportation Research (TR) Part B: Methodological from 2013 to 2018, a prestigious journal in the field of transportation. Currently, Professor Yang serves on the Distinguished Editorial Board of TR Part B, Scientific Council of TR Part C: Emerging Technologies, and serves as an Advisory Editor of Transportation Science.

Development of Sea-Rail Combined Transportation System between Korea and China

Paul Tae-Woo Lee

Director, Maritime Logistics and Free Trade Islands Research Centre, Ocean College, Zhejiang University

South Korea, situated as an island-like nation divided by the demilitarized zone within the Korean Peninsula, facilitates cargo transportation for Central Asia through a sea-rail combined transportation system (SRCTS). This system effectively utilizes the China Railway Express (CRE) and the trans-Siberian railway (TSR). The primary objectives of this research endeavor encompass three aspects: first, to scrutinize and analyze the SRCTS concerning containerized cargo exported from Korea to Chinese ports, subsequently transported to Central Asia or Europe utilizing the CRE; second, to investigate the challenges faced during the transportation process by major Korean logistics companies, particularly in light of China's prevailing policies pertaining to the aforementioned SRCTS; and lastly, to propose policy recommendations aimed at revitalizing the SRCTS. To accomplish these objectives, extensive interviews were conducted with prominent logistics companies in Korea and CRE platforms, complemented by field trips to border regions in China. Notably, these interviews and field trips took place both before and after the COVID-19 pandemic, thereby facilitating an examination of the pandemic's impact on the SRCTS in both Korea and China

Paul Tae-Woo Lee is a Professor of Maritime Transport and Logistics and the Director of the Maritime Logistics and Free Trade Islands Research Centre at Ocean College, Zhejiang University. He holds a Ph.D. degree from Cardiff University in the UK. He was Visiting Scholar at the Faculty of Economics and Politics in the University of Cambridge, including eight universities worldwide. He completed container and LNG shipping and port projects in tandem with financing for four countries, serving advisory jobs for their governments. Paul is also a regular speaker at APEC, UNESCAP, and UNDP. Since the inception of the Belt and Road Initiative (BRI) in 2013, he has been a well-known invited speaker at international conferences, fora, and seminars on the BRI. Paul has published nine books and approximately 250 papers and edited 30 special issues of journals, including 12 issues on the BRI. He was a monthly columnist of Lloyd's List for four years and served the International Association of Maritime Economists (IAME) since its inception in 1992 as Co-opt Vice President and Secretary-General. Professor Lee is a founding member of the Global Research Network-BRI (GRN-BRI, 2021).

Post-Covid-19, Russo-Ukrainian Conflict, and the Resilience of Maritime Transport: A Research Agenda

Adolf K.Y. Ng

Professor, Faculty of Business and Management, BNU-HKBU United International College, China

Risk represents an essential challenge for the resilience of global maritime transport that ranges from adapting to climate change impacts to addressing security threats in the digital industrial era. Risk complicates decisions about when, how, and to what extent appropriate strategies and capacity investments should be committed to successfully adapt to a highly uncertain and complex environment. The inability to address risk properly would cause disruptions in maritime transport system and facilities which, in turn, would jeopardize the well-being of the global economy. Hitherto, the research community has yet to satisfactorily address this gap. Notable examples include an inadequate understanding of the roles and importance of resilience on the efficiency of maritime transport systems and operations, the lack of scientifically robust data, unreliable models/methods, poor communications, and engagements of vulnerability findings with stakeholders, to name but a few. This offers an opportunity to conduct research in maritime transport resilience that could shift risk management from the traditional reactive, single-dimensional practice to a proactive, multi-dimensional, and multi-disciplinary research paradigm. This presentation aims to provide a research agenda for this.

Adolf K.Y. Ng, China's State Specially Recruited Expert, is a Professor in BNU-HKBU United International College (UIC), China. Also, he is the Acting Dean of UIC's Faculty of Business and Management. Obtaining DPhil from the University of Oxford, his research interests include port management, transport geography, supply chain resilience, climate adaptation planning, institutional and organizational change, and global value chains. His works are highly influential. In 2021, he was included in the World's Top 2% Scientists conducted by Stanford University. He is an Associate Editor of the leading journal in maritime studies, Maritime Policy & Management, the Editor-in-Chief of The Maritime Economist, the official magazine of the International Association of Maritime Economists (IAME), and a Founding Member of the international consortium on resilient transport and supply chain networks 'CCAPPTIA' (www.ccapptia.com).

Post-Pandemic Recovery in Aviation: a Research Agenda

Bilotkach Volodymyr

Associate Professor in Aviation Management, Purdue University

As IATA's forecast for aviation to recover to 2019 level by 2024 will most likely come true; now is the best time for scholars to start evaluating the impact of the pandemic on the aviation sector. I see the following general questions as the most promising for the future research agenda:

- Can we see any trends in market recovery? My preliminary analysis of the US data suggests that while some thinner routes lost service post-pandemic, a number of new markets have appeared. Longer distance and less intensive competition appear to be related to slower recovery, other things equal.

- Has the nature of competition between the airlines changed? Will competition be more or less aggressive?

- How has demand for air travel been affected? Has some business travel disappeared, and what are the implications for the airlines' business models if it does?

- What are the implications of increasing airport and ANS charges for the industry?

- How will we finance decarbonization of aviation, and has the pandemic made the job more difficult for us?

Another interesting issue is incorporating the 2020-2021 data into future academic studies of the airline industry. Should we simply drop those years, or use that information with the understanding of all the relevant limitations and consequences of doing so? Last but not least, analysis of the post-pandemic recovery should cover as much ground as possible – the air travel decreased to different extent in different parts of the world, and these discrepancies can help us shed light at some more general questions, such as disentangling the impact of lower demand for air travel versus the effect of travel restrictions during the pandemic.

Dr Volodymyr Bilotkach is an Associate Professor in Aviation Management with Purdue University's School of Aviation and Transportation Technology. An accomplished scholar with internationally visible research profile, he has written a book "Economics of Airlines" and published over 40 articles in peer-reviewed journals. Dr Bilotkach's research spans a number of issues in the economics, regulation and policy of the aviation sector. He is a Co-Editor-In-Chief of Journal of Air Transport Management; Editorial Board member at Transport Policy, Research in Transportation Economics, and the Journal of Aviation/Aerospace Education and Research. Dr Bilotkach is also Chair of the Advisory Board of Aviation Studies Institute, jointly established by the Singapore University of Technology and Design and the Civil Aviation Authority of Singapore.Dr Bilotkach has previously held academic positions in the USA, United Kingdom and Singapore, and short-term appointments in Ukraine, Germany, South Korea, and Japan. He has been involved in consulting projects in the Netherlands (advising the Dutch Government on market power of Schiphol Airport); South Korea (consulting Incheon International Airport on its expansion plans); and Malaysia (as an advisor to Malaysian Aviation Commission), among others. Dr Bilotkach is an External Instructor with IATA Training, through which he delivered over 20 intensive courses in eleven different countries. He also contributes to the Executive

Education programs run by the Singapore Aviation Academy. Dr Bilotkach holds Ph.D. in Economics from the University of Arizona, as well as B.A. and M.A. in Economics from the National University of Kyiv-Mohyla Academy in Kyiv, Ukraine

Workshop

Workshop on Transportation Research

From	To		Location	Chair
July 27, 2023				
10:00	10:20	Topic: A Deep Bayesian Network approach for analyzing the maritime supply chain cyber-attack surface Prof. Ziting Xu	Room: DE403	Prof. Kam Hung Ng
10:20	10:40	Topic: Seaport Adaptation to Climate Change-related Disasters under Coopetition with Dry Port Prof. Xiangru Wu	Room: DE403	Prof. Kam Hung Ng
10:40	11:00	Topic: How does a single pilot operation in a dual-pilot cockpit system hinder its applicability in commercial airlines? an EEG and eye tracker-based investigation Prof. Kam Hung Ng	Room: DE403	Prof. Kam Hung Ng
11:00	11:20	Topic: Interactions between Allowance Allocation Methods and Selection of Emission Reduction Technologies Prof. Ruqi Zhou	Room: DE403	Prof. Yui-yip Lau
11:20	11:40	Topic: Dynamic effect of subway expansion on the spatial and temporal distribution of road congestion Prof. Xiaolong Li	Room: DE403	Prof. Yui-yip Lau
11:40	12:00	Topic: Maritime Transport Resilience: A Bibliometric Study from 1997 to 2023 Prof. Yui-yip Lau	Room: DE403	Prof. Yui-yip Lau
12:00	14:00	Lunch	Ju Yin House	
14:00	14:20	Topic: Factors affecting the crash severity of autonomous vehicle involved crashes-Some insights from the AV incident Prof. Hanlong FU	Room: DE403	Prof. Huan Jin
14:20	14:40	Topic: Airline competition in Indonesia and the impact of COVID-19 pandemic Weicheng Wang	Room: DE403	Prof. Huan Jin
14:40	15:00	Topic: E-sharing bicycle parking spots design and dynamic rebalancing problem Huan Jin	Room: DE403	Prof. Huan Jin
15:00	15:30	Coffee Break		
15:30	16:00	Topic: Combining Booking and rationing strategies for equitable travel demand	Room: DE403	

		management Prof. Hai Yang		
16:00	16:20	Topic: Development of Sea-Rail Combined Transportation System between Korea and China Prof. Paul Lee	Room: DE403	
16:20	16:40	Topic: Post-Covid-19, Russo-Ukrainian Conflict, and the Resilience of Maritime Transport: A Research Agenda Prof. Adolf K.Y. Ng	Room: DE403	
16:40	17:00	Topic: Post-Pandemic Recovery in Aviation: a Research Agenda Prof. Bilotkach Volodymyr	Room: DE403	
17:00	17:20	Topic: Mobility change and strategies of railway in the new normal after COVID-19 Prof. Hongchang Li	Room: DE403	
17:20	17:40	Penal Discussions Panelists: Prof. Paul Lee, Prof. Adolf Ng, Prof. Bilotkach Volodymyr, Prof. Hongchang Li, Prof. Xujuan Kuang, Dr. Kun Wang	Room: DE403	Prof. Huan Jin
19:00	21:00	Conference Dinner	King Yat Hin, Fortune Metropolis	

Conference Organisers

National Academy of Economic Security, Beijing Jiaotong University

National Academy of Economic Security（NAES）is a non-profit research institution, focusing on the integrated social scientific research. Based on the 12-year great achievements of China Center for Industrial Security Research, NAES is established to safeguard national economic security under the guidance of constructing "overall National Security", a proposal from Chinese President Xi Jinping.

As an adherer to "rigorousness in academics and strictness in requirements", an academic tradition of Beijing Jiaotong University (BJTU)，NAES serves both as a defender to the supreme strategy of the national security and as a new national high-end think tank that conducts comprehensive and systematic research on major issues to the national economic security and provides visionary and practicable advice for scientific research, industrial practices and national security decisions.

Co-construction Mechanism:

Under the support of BJTU, NAES is constructed on the joint efforts of more than thirty scientific research institutes in university and enterprises, aiming to achieve the synergic innovation by the integration of advantage disciplines resources from all sides involved and work together to build a high-end think tank in the national economic security field.

NAES Council:

To ensure NAES's daily operation and management, a strong leading body, NAES council, has been founded accordingly. Under its leadership, the director accountability system is adopted. A vice national-level scholar-type leader, former Vice Chairman of CPPCC Mr. Qi Xuchun, is currently the head of the Council.

Chief Expert System:

To ensure a bellwether's position in predominant disciplines, NAES creates "Chief Scientist" and "Chief Economist" systems. NAES plans to employ ten academicians as chief scientists in cross-disciplinary fields, ten famous economists and counsellors of the State Council as chief economists in research fields of humanities and social sciences.

Ministerial and Provincial Platforms:

NAES has two ministerial provincial platforms: "Beijing Philosophy and Social Sciences Beijing Industrial Security and Development Research Base" and "Beijing Laboratory of National Economic Security Early-warning Engineering".

Research Centers:

With all research proceeding orderly in China Center for Industrial Security Research, NAES strives to set up "Research Center for Credit Rating", "Research Center for China Listed Company Development", "Research Center for Big Data and Cloud Computing", "Research Center for Regional Economic", "Research Center for Economic Security Simulation", "Research Center for Environmental Science and Water Security" and "Research Center for Carbon Capital and New Energy Security", some of which have been established.

Postdoctoral Research Station:

NAES owns an independent postdoctoral station: China Center for Industrial Security Research Postdoctoral Research Station, with an accumulation of 509 postdoctoral researchers.

Talents Cultivation:

NAES adheres to the cultivation idea of "cultivating the brilliant and integrating the high-end", adopting "learning plus practice" and "individual plus platform" innovative master-doctor cultivation models to develop comprehensive innovative management talents. Under the guidance of "integrating the high-end", NAES strives to build a training brand of "BJTU Leaders" and promote the "Post-EMBA" training.

NAES is committed to safeguard the national economic security, conducting innovative research on the theoretical system construction in economic security fields such as, monitoring, prediction, simulation, prewarning and prevention, countermeasures and solutions. NAES targets to gradually become a national security think tank and a new national high-end think tank at last by leading in theories and serving to the decision-making.

International Center for Informatics Research, Beijing Jiaotong University

The International Center for Informatics Research (ICIR) of Beijing Jiaotong University was jointly founded in March 2009 by Beijing Jiaotong University and University of Reading (UK). Taking talent training, scientific research, serving our society and cultural inheritance as the responsibilities, ICIR is established as a respected international teaching and research base, in information technology, logistics management and other related areas, through international cooperation and communication. International partners of ICIR include Liverpool University, UC Berkeley, The Pennsylvania State University, University of Maryland, Universitat Politècnica de Catalunya. BarcelonaTech, Université Paris VI, University of Macau as well as more than ten other famous universities in the world. Domestically, ICIR has established cooperation with many research institutes such as Development Research Center of the State Council, Academy of China, Xinhua News Agency etc.

The research areas of ICIR target information management, service science and logistics management and engineering in IT environment. The information management and service science includes topics of information industry theories and policies, E-Business and enterprise informatization, smart space and smart city, cloud computing technologies and applications. The logistics management and engineering includes topics of logistics economy and policies, design and optimization of regional and industrial logistics systems, internet of things (IoT) technology and logistics informatization, logistics planning and architecture design.

The key members of ICIR are Prof. Zhenji Zhang, Prof. Runtong Zhang, Prof. Shifeng Liu, Prof. Xianliang Shi, Prof. Juliang Zhang, Prof. Yisong Li, Prof. Hongjie Lan, Prof. Dan Chang, Prof. Guowei Hua, Prof. Xiaochun Lu and others, in total 15 full professors and associate professors form China. Prof. Gerhard Wäscher, Prof. James M. Tien, Prof. Kecheng Liu, Prof. Lida Xu, Prof. C. L. Philip Chen, Prof. Martin Dresner, Prof. T. C. Edwin Cheng, Prof. Therese Libourel, Prof. Vicenc Fernandez Alacon, Prof. Zuojun Max Shen, Prof. Yannis A. Phillis, Prof. Jiuh-Biing Sheu, Prof. Tae Hoon OUM as well as other more than 20 professors from overseas.

The platforms of research and international collaborations include
- IEEE Technical Committee on Logistics Informatics and Industrial Security Systems
- Sino-EU Doctoral School for Sustainability Engineering (Program in Logistics, Information, Management and Service Science)
- Beijing Planning Base of Philosophy and Social Science--Beijing Research Base for Logistics and Informatics
- Beijing Key Lab for Logistics Management and Technology
- LISS/IEIS International Conferences
- Over 15 Cooperative SCI/SSCI/EI Journals

Up to now, ICIR has been undertaking over 160 projects, including those supported by EU seventh framework, Critical and Major Program of National Natural Science Foundation of China (NSFC), National High Technology Research and Development Program of China (863 Program), Major State Basic Research Development Program of China (973 Program), National Key Technology Research and Development Program of the Ministry of Science and Technology of China, Major Program of Social Science Foundation of Beijing, with a total grant of over 34

Million CNY (5.5 Million US dollar). In addition, the members of ICIR published more than 600 papers in refereed journals and conferences, such as IEEE Trans. Systems, Man and Cybernetics, IEEE Trans. Fuzzy Systems, International Journal of Production Economics, European Journal of Operations Research, Naval Research Logistics, as well as 10 scientific monographs. ICIR has been granted 1 Science and Technology Progress Award at national level and 2 Science and Technology Progress Awards at provincial and ministerial level, 2 Teaching Achievement Awards at national level and 4 Teaching Achievement Awards at provincial and ministerial level, 2 Best Courses Awards and 9 Best Textbook Awards at the national level. There are 23 post-doctorals and 41 Ph.D. candidates at ICIR.

The Hong Kong Polytechnic University

With 85 years of proud tradition and ranking among the world's top 100 institutions, PolyU aspires to be a leading university with world-class research and education.

The Hong Kong Polytechnic University (PolyU) is a home for educating thinkers, discoverers, innovators and communicators in delivering positive impact. We are committed to nurturing tomorrow's leaders today, through a holistic education that provides graduates unrivaled placements to thrive in communities, industries and businesses.

We strive in inter-disciplinary research and impactful innovations to address real-world challenges. Our researchers are developing breakthrough ideas, fostering sustainability, lifting economic outcomes and improving communities' lives for the benefit of Hong Kong, the Nation and the world.

Motto, Vision and Mission

● Our Motto

To learn and to apply, for the benefit of mankind

The above is derived from the Chinese motto, quoted from the great Chinese classic Yijing (Book of Change) and two ancient treatises, one from Han dynasty and the other from pre-Qin times.

The original Chinese text can be paraphrased as follows: "Learn every truth and use the knowledge learned to accomplish every task" and "to learn; to serve".

● Our Vision

Be a leading university that advances and transfers knowledge, and provides the best holistic education for the benefit of Hong Kong, the Nation and the world.

● Our Mission

To pursue impactful research that benefits the world.

To nurture critical thinkers, effective communicators, innovative problem solvers and socially responsible global citizens.

To foster a University community in which all members can excel in their aspirations with a strong sense of belonging and pride.

Key Facts
- Institutional Performance and Analytics

To coordinate major university ranking exercises, conduct and interpret institutional benchmarking studies and comparative studies in higher education, facilitate the accessibility of research output, as well as coordinate various research analytics tools.
- Data and Decision Support

To coordinate the reporting of institutional data to government bodies and external parties, develop advanced data analytics and statistical models for assessment and evaluation, as well as support the senior management to develop and monitor university.
- Communication and Survey Coordination

To coordinate institutional surveys, engage in internal and external communications, host various platforms for the University, as well as formulate and implement marketing strategies on institutional performance.

History
- PolyU today

While PolyU boasts a history of eight decades, we keep moving with the times and addressing real-world challenges, serving the needs of Hong Kong, the Nation and the world.

The Hong Kong Polytechnic University (25 November 1994)

Having gained approval from the University and Polytechnic Grants Committee for the selfaccreditation of degree programmes, the institution assumed full university status, with its name changed to "The Hong Kong Polytechnic University".
- Hong Kong Polytechnic (1972)

The Hong Kong Polytechnic was formally established, with a mandate to provide professional education to meet the community's manpower needs.
- Hong Kong Technical College (1947)

After World War II, the School became the Hong Kong Technical College. 1957 saw the opening of a new premises in Hung Hom, signifying the beginning of a new chapter in industrial education in Hong Kong.
- Government Trade School (1937)

Founding of the Government Trade School, the origin of the Institution. Situated in Wood Road, Wanchai, the School was the first publicly funded, post-secondary technical institution in Hong Kong.

Henley Business School, University of Reading

Founded in 1945, by business for business, Henley was the first business school in the UK and is one of the oldest and most respected schools in Europe.

Our impressive full-service portfolio includes a range of undergraduate degrees and Postgraduate degrees in Accountancy, Business, Management, Finance, Real Estate, Planning, Informatics, and Coaching. We offer a world-class DBA and have a dynamic community of PhD students on postgraduate research degrees. Henley has an impressive track record of growing leaders and developing managers to make the right choices for their organisations and for the society they live in which are delivered through our executive education programme, the Henley Partnership and the Henley MBA.

One of the very few business schools worldwide to hold triple-accredited status from the major UK, European and US awarding bodies (AMBA, EQUIS, AACSB), we are also the world's third largest provider of MBA education and home to the world-ranked Henley MBA.

The School represents the largest unit within the University of Reading, rated among the UK's most research-intensive institutions and ranked among the world's top 200 universities (The Times, 2008).

School of Economics and Management, Beijing Jiaotong University

Beijing Jiaotong University (BJTU) was born with its specialty in railway and developed along with its management disciplines. As early as 1909, the Qing government established Beijing Railway Management Training Institute, the predecessor of BJTU, proclaiming the first institute of higher education that cultivated management talents in the history of China.

The disciplines of economics and management, having started at the very beginning of BJTU, are naturally the most long standing disciplines on campus. Over more than one century, the growths of disciplines have been closely connected to the country's destiny, overlapping endlessly with the university's development, and rising more distinctive through the years of time. In 1996, BJTU integrated School of Economics, Department of Industrial and Construction Management Engineering, and Department of Materials Management Engineering to form School of Economics and Management (SEM). Hence the school has stepped into a new stage growing even stronger. In 2011, SEM was approved by the Ministry of Education as one of the first group of 17 pilot schools. In 2019, SEM was awarded 3 PALMS in the World Best Business Schools Ranking by Eduniversal, being prominent in its 10th position in the best business schools ranking in mainland China. December 28th in 2017, China Academic Degrees and Graduate Education Development Center, the Ministry of Education announced the results of the fourth round of China Discipline Ranking, and the participating disciplines of our school obtained gratifying outcome with three first-level disciplines came up top. Among the list, our discipline of Business Administration ranks top 10% and stands in the A- Rating; Applied Economics, top 20% and B+; and coincidentally, Management Science and Engineering, top 20% and B+. This marks a significant milestone in our school's discipline construction. The economics and management of the School have been ranked in the " Academic Ranking of World Universities", showing a strong comprehensive strength of disciplines.

As the earliest institute of higher education that provides business education in modern China, for over a century SEM has cultivated a large number of top talents and management elites. For example, Xu Jing, pioneer of China's railway transportation economics discipline in China, Yang Rumei, one of China's first four accountants, and Zhao Chuanyun, national reputed expert of railway transportation economics, they are all outstanding figures. At present, SEM has more than 5100 students, including more than 700 doctoral students, more than 2500 master students, nearly 1900 undergraduates (458 of them in Weihai Campus) and nearly 300 international students.

In recent years, the college has been awarded 1 national excellent teaching team, 3 Beijing excellent teaching teams, 1 national-renown teacher, 7 Beijing-renown teachers, 24 national and Beijing teaching achievement awards, 4 national first-class undergraduate specialty construction points, 2 national characteristic specialties, 2 national "comprehensive professional reform pilot project" major, 1 key construction specialty in Beijing. Through the evaluation of the Ministry of housing and urban rural development, there are 1 major, 2 national quality teaching materials, 42 Beijing excellent teaching materials, 9 12th Five Year Plan teaching materials, 2 national quality open video courses, 5 national excellent resource sharing courses, and 1 National virtual teaching experimental center. It has been approved 69 National University Students' innovation experiment projects and 68 Beijing Municipal University Students' innovation experiment projects. Undergraduate students have won 14 national first prizes and 25 provincial first prizes.

Since the establishment of Economics and Management disciplines, the University have gathered a large group of talented scholars and accomplished experts. Zeng Kunhua, founder of the University and the first railway management expert in modern China, Ma Yinchu, famous Chinese Economist and demographer, Hu Liyou, chief professor of Beiping Railway Management School of Chiao Tung University and many other experts have taught here. At present, SEM has 292 members of faculty and staff, with 215 faculty members including 57 professors, 97 associate professors and 51 lecturers. The School recruited faculty members with high-level talents that include academician of Chinese Academy of Engineering, counselor of the State Council, National Renowned Teachers, Discipline Review Group of State Council members, "Ten Thousand Talents Plan", "New Century Excellent Talents Supporting Program" of the Ministry of Education, etc.

After years of development, the School now has four first-class disciplines: Applied Economics, Business Administration, Management Science and Engineering, and Public Management. Among them, Applied Economics, Business Administration and Management Science and Engineering have first-class doctoral programs and postdoctoral mobile stations. In each discipline there are professors who are selected as members of the discipline evaluation group of the State Council. It has one national key discipline industrial economics, three Beijing key disciplines: applied economics, management science and engineering, and enterprise management. It has three key research bases of philosophy and Social Sciences in Beijing: "Beijing Transportation Development Research Base", "Beijing Industrial Security Research Base", "Beijing Logistics Informatization Research Base", and one Beijing Social Science and Natural Science Collaborative Innovation Research Base "Beijing Humanities Transportation, Scientific Transportation and Green Transportation Research Base" (all four bases are listed in the index of China Think Tank Index (CTTI)), 1 national and regional research center of the Ministry of Education, "Central and Eastern Europe Research Center of Beijing Jiaotong University", 1 Beijing Laboratory "National Economic Security Early Warning Project Beijing Laboratory", 1 Beijing Key Laboratory "logistics Management And Technology Laboratory", 1 capital high-end think tank "Beijing Comprehensive Transportation Development Research Institute". 11 university level scientific research institutions are engaged in scientific research and social services.

The School has always been aiming at the needs of national strategy and industrial development, giving full play to the advantages of comprehensive disciplines in the field of economics and management. Through intellectual support, talent guarantee and professional services, the college actively serves the development of national transportation, modern logistics, capital finance, information technology, construction and real estate, tourism and health, and has become an important force to support and lead China's industrial development.

In the past five years, the annual average research funding of the School has exceeded 59 million yuan, with more than 1200 scientific research projects, ranking among the top among similar colleges in China. The college has been approved by 28 national social science funds, 39 National Natural Science Funds, 1 national key R & D project, 17 humanities and social sciences projects of the Ministry of Education, 80 projects of Beijing Philosophy and Social Affairs Office, as well as a number of international projects such as the seventh framework of EU and the world bank. He has published more than 2400 academic papers (including 10 highly cited papers, 151 SCI retrieval papers, 66 SSCI retrieval papers and 214 EI retrieval papers). 238 monographs, textbooks and translations were published. 49 expert suggestions have been selected into the Beijing social Science Fund Achievement Report, the National Social Science Fund Achievement Report, the Ministry of Education University Think Tank Special Issue or People's Daily for internal reference, and 25 of them were approved by the central or local leaders. SEM has won 9 awards above the provincial and ministerial level.

As an important part of social service, SEM has long carried out various professional business training including degree education class and course refresher class, enterprise internal training class, high-end development class, staff continuing education and other professional business training. It has established partnership with more than 200 enterprises and institutions, and signed strategic cooperation agreements with more than 100 local governments, enterprises and institutions.

SEM has established more than 90 cooperative projects with more than 60 internationally renowned universities such as the University of Illinois at Urbana Champaign, Monash University, National University of Singapore and Waseda University. SEM has entered the AACSB and EQUIS accreditation process, and completed the submission of the self-assessment reports of the two major accrediations, and will welcome peer review team's visit in 2020. At the same time, the School is also actively promoting the process of MBA program CAMEA accreditation. In 2013, the School established an International Advisory Committee, comparably earlier than the rest of domestic secondary colleges of higher education. By learning from first-class business schools worldwide, SEM is in full speed for pursuing internationalization of the School.

Beijing Jiaotong University

Beijing Jiaotong University, a national key university under the direct administration of the Ministry of Education, jointly supported by the Ministry of Education, Ministry of Transport, Beijing Municipal Government and China Railway Corporation, is also an active contributor to the development of the "National 211 Project" and the "985 Innovative Platforms for Key Disciplines Project". The Collaborative Innovation Centre for Rail Transit Safety, established by BJTU, is one of the first 14 collaborative centers recognized by the Chinese government as part of the "National 2011 Projects". BJTU was one of the first universities selected into the 'Double First-Class' National Initiative and has already accomplished its first set of development tasks. The university's achievements in world-class 'Smart Transportation' discipline in particular has gained wide recognition among examining experts and authorities.

As one of the three founding bodies of the Jiaotong University, the history of BJTU can be dated back to 1896. BJTU originated from Beijing Railway Management Institute, China's first higher education institution committed to fostering railway management talents and was created by the Qing dynasty government. It is regarded as the birthplace of modern China's education in railway management and telecommunication. In 1917, it transformed into Beijing Railway Management School and Beijing Post and Telecommunication School. In 1921, the school merged with Shanghai Industrial College, Tangshan Industrial College and thusly formed the original Jiaotong University. After the restructuring of Jiaotong University in 1923, the Beijing campus was renamed Beijing Jiaotong University. In 1950, the school was again renamed Northern Jiaotong University with leading bridge expert and scholar Prof. Mao Yisheng as president. In 1952, Northern Jiaotong University was cancelled, the campuses at Beijing and Tangshan therefore became independent and the school was renamed Beijing Railway

Institute. In 1970, the name Northern Jiaotong University was re-adopted. In 2000, the school merged with the Beijing Electric Power College and the administration was transferred from the Ministry of Railways to the Ministry of Education. In 2003, the name Beijing Jiaotong University was resumed. Numerous renowned scholars and inventors in Chinese history received education in BJTU, including LIU Han, founder of China's first radio station; YING Shangcai, inventor of China's first high-power steam engine; JIN Shixuan, author of China's first railway management monograph; XU Jing, pioneer of railway transport economics in China; YANG Rumei, one of the earliest four major accountants in China, and ZHENG Zhenduo, famous writer, literary critic and historian. Certain famous academics also taught at the University, including HSIANG Che-chun, Prosecutor of the Tokyo Trial and MA Yinchu, famous demographer and economist in China.

BJTU has two campuses, the East and the West, in the renowned education district Haidian with a total area of nearly 67 hectares and building floorage of more than 1 million square meters. The Weihai International Campus in Shandong Province covers more than 67 hectares. All campuses are equipped with complete teaching and research facilities and enjoys beautiful scenery. In Huangye, Hebei Province, the BJTU Haibin Rail Transit Comprehensive Research and Development Base was set up with an overall area of approximately 15.5 hectares. The Tangshan Research Institute of Beijing Jiaotong University, established in Tangshan, Hebei Province, is dedicated to developing a demonstration zone of international education for R&D and commercialization of scientific findings.

Through the past 120 years, the university has developed a comprehensive and coordinated education system with strength disciplines in information and management, characteristic disciplines in transportation and other diversified disciplines such as engineering, management, economics, science, liberal arts, law and philosophy. The university is home to 16 schools, including School of Electronic and Information Engineering, School of Computer and Information, School of Economics and Management, School of Traffic and Transportation, School of Civil Engineering, School of Mechanical, Electronic and Control Engineering, School of Electrical Engineering, School of Sciences, School of Languages and Communication Studies, School of Software Engineering, School of Humanities and Social Sciences Marxism, School of Architecture and Design, Law School, School of Information Secret and Security Technology, Weihai International Campus, Zhan Tianyou Emerging Technology College, etc. The university also set up Graduate School, College of International Education and School of Distance Learning and Continuing Education.

BJTU's position in international rankings of world leading universities and disciplines are steadily on the rise. The university has already entered the top 500 list of the ARWU Ranking and for 3 years in a row, BJTU's Transportation Engineering discipline has crowned the world leading discipline ranking and 15 disciplines in total were qualified. 10 disciplines have been selected for U.S News world leading discipline ranking, 7 entered the same ranking of QS, 5 were nominated for the Times ranking. Engineering studies maintained a steady placing in the top 1% of ESI and 5 disciplines in total entered the top 1% list. The System Science discipline remained top 1 for four consecutive years in the National Discipline Evaluation, 5 disciplines were among the top 10% (Category A) in the fourth round of the evaluation, 7 were among the top 20% (Category B+). The university has 17 Post-doc Research Centers, 21 Level-1 Discipline Doctoral Programs and 3 Professional Doctoral Degree Programs. On the graduate level, BJTU is in charge of 33 Level-1 Discipline Master Programs, 2 Level-2 Discipline Master Programs and 19 Professional Master Degree Programs.

The university always sees high quality faculty development as the key to strengthening the school operation

efficiency and has thusly adopted a 'talent cultivation' strategy. The university employs 3040 staff, including 1,965 full-time teachers (1,374 with vice-senior or higher professional technical titles, 1,908 with master degree or higher academic qualifications.). The university is home to 4 academicians of Chinese Academy of Science, 9 academicians of Chinese Academy of Engineering, 1foreign academician of Chinese Academy of Engineering, 5 National Renowned Teachers, 6 Members of State Council Disciplinary Evaluation Committee, 15 experts of National Ten-thousand Talent Plan, 8 state candidates of the National Hundred-Thousand-Thousands of Talents Project, 12 Winners of National Outstanding Youth Funds, 20 winners of Distinguished Young Scholars and 2 talents of the Publicity Department of the CPC Central Committee's 'Four First Batch' project.

BJTU has always attached high importance to talent cultivation, the core of the university's operation and mission, raising innumerable talents for the country and the industry. Currently, the university has 16,153 undergraduate students, 2,908 doctoral students, 10,014 master students and 5,270 adult college students. The total amount of international exchange students amounts to 1,363. In the teaching achievement award evaluation for latest three years, BJTU has won 3 First Prizes, 8 Second Prizes on the national level. The university employs 5 national level renowned teachers, 2 national 'Ten Thousand Talent Project' renowned teachers, 34 Beijing municipal level renowned teachers and 8 Beijing young renowned teachers. 32 teachers were selected into the 2018-2022 Teaching Steering Committee of Higher Education Institutions of the Ministry of Education. BJTU has 34 National Level First Class Program Development Sites, 11 National Level Characteristic Specialties, 7 National Level Comprehensive Reform Pilot Programs, and 8 National Level Outstanding Engineering Education Plan Majors, among which 12 were certified by the National Engineering Education Evaluation and 2 passed the National Civil Engineering Major Assessment. The University has established 6 National Experimental Demonstration Centers, 3 National Centers of Virtual Simulation Experiment Teaching, 3 National University Student Extracurricular Practice Bases, 7 National Engineering Practical Education Centers and 1 National Teaching Development and Demonstration Centre. BJTU offers 32 Nationally-Certified First Class Undergraduate Courses, 19 National Excellent Resource Sharing Courses, and 6 National Excellent Online Video Public Courses. 42 textbooks of 34 categories were qualified as the 'Twelfth Five-Year Plan' Normal Higher Education Undergraduate National Teaching Materials. The university insists on creating synergy between its undergraduate and master programs, integration and fusion between disciplines, close relationship between industry and university and international connectivity. By implementing the 'Highland Project' and the 'Peak Project', the Zhan Tianyou Emerging Technology College was established, further exploring 3+5 integrated undergraduate and master talent cultivation model to a fundamental disciplines' outstanding student education base. The student quality and education capability continue to improve yearly with a steady employment rate of undergraduate and post-graduate student around 97%, while 56% bachelor graduates continue to pursue higher academic degrees. BJTU was recognized by MOE as one of the first National Entrepreneurship and Innovation Example Universities, and Beijing Municipal Entrepreneurship and Innovation Educational Reform Demonstration University. The "Suite of Songs on the Long March" stage play and the original theatre play "Mao Yisheng" portrayed by BJTU Student Art Troupe was an innovative fusion of artistic expression and teaching that developed into an embodiment of the university patriotism education. BJTU also places great emphasis on the students' physical education, high level athletes teams and common students teams all earned great results in various competitions. In 2020, the university took home 4 national championships and 23 municipal championships.

BJTU has always targeted the frontier of scientific and technological development and the demands of major national strategies. BJTU actively participated in major historic events of China's rail transit development including the Major Railway Speed-up Project, the construction of Qinghai-Tibet Railway, the heavy-haul

transportation of Daqin Railway, the construction of high-speed railway and the independent research and development of core technologies regarding urban rail transit. The university has made significant scientific and technological achievements at international leading level with complete intellectual property rights. BJTU has made positive contribution to the development of various industries such as transportation, logistic, information engineering, new energy, etc. Reaping great benefits for Beijing's social and economic development, the university has become a major force for support and leadership of the national, industrial and regional scientific innovation development.

In the past five years, the university received 10 national level awards, 142 provincial level technological awards and hosted 11 first or higher prize winning projects of key academies and societies, among which there were 1 first prize National Science and Technology Progress Award, 2 second prize National Science and Technology Progress Awards, 2 second prize State Technological Invention Awards, 21 Beijing Municipal Philosophy and Social Sciences Research Awards. BJTU undertook major state R&D projects and other research tasks from The National Social Science Fund and the National Natural Science Foundation, total research funds attributed to the university rose above 1 thousand million Yuan. The university was approbated by the National Intellectual Property Administration and Ministry of Education as one of the first National Intellectual Property Demonstration Universities. BJTU boasts more than 70 provincial and ministerial-level research platforms, including 1 Collaborative Innovation Center for Rail Transit Safety, 1 Smart High-speed Railway System Frontier Science Center, 1 National Key Laboratory, 1 National Engineering Research Centre, 6 National Engineering Laboratories (5 of which BJTU is closely involved in), 2 National Base of International Science and Technology Cooperation, 8 Key Laboratories/Education and Engineering Research Centers of the Ministry of Education, 1 National Energy Research Centre, 2 Key Laboratories of Traffic and Transportation Industry, 2 Beijing municipal laboratories, 17 Beijing Key Laboratories/Engineering Technology Research Centers, 3 Railway Industry Key Laboratories, 8 Oversea Expertise Introduction Centers, 1 of the first Capital Advanced Think-Tanks, 1 New Traffic and Transportation Think-Tank of the Ministry of Transport, 1 Beijing Municipal Research Center on Xi Jinping's New Age Socialism with Distinctive Chinese Characteristics Theories, 4 Beijing Municipal Research Bases of Philosophy and Social Sciences, 1 National and Regional Research Center of the Ministry of Education. BJTU holds annually the Advanced Forum on Transportation of China, Lecture Hall of Jiaotong University and the Capital Advanced Think-Tank Forum on Beijing Transportation Development. The university provides kilo mega internet coverage for both cable and wireless connections throughout the campus. Thorough application of innovative high-technologies such as High Performance Computing, Big Data and Artificial Intelligence offers strong boost and support to the university's reform and development. Nowadays, the institution possesses teaching and research equipment of 1.35 billion Yuan worth. The university library stocks paperback monographs, electronic books and online resources of nearly 14.62 million copies. BJTU established a characteristic database of transportation and traffic studies, as well as an Inspection and Research Work Station of Innovative Technologies of the Ministry of Education. It was approbated as one of the first Higher Education Institution National Intellectual Property Information Service Centers.

The university regards international cooperation and exchanges as an important way to improve education quality. Actively responding to the appeal of the "Belt and Road Initiative", BJTU established partnership with 289 universities and renowned cross-national enterprises from 49 countries, including the United States, the United Kingdom, Germany and France. With the purpose of promoting Chinese culture and language teaching, the university has established 4 Confucius Institutes at Group T of KU Leuven in Belgium, Texas Southern University in the United States, University of Campinas in Brazil and Warsaw University of Technology. For the further

improvement of academic influence and authority in the global railway sector, BJTU successively joined international organizations and alliances such as OSJD, UIC and China-CEEC Higher Education Institutions Consortium, and led the establishment of the latter two. In order to enhance international research cooperation, the university also led the creation of the China-US, China-Russia, China-UK and China-Indonesia High-speed Railway Research Centers. BJTU is also actively engaged in undergraduate, postgraduate level degree program cooperation. The university operates 5 Chinese-Foreign Cooperation in Running Schools Programs, 1 Chinese-Foreign Collaboratively Run School and 2 oversea educational institutions. Making full play of the alumni association, the foundation and the university board, BJTU established 53 alumni organizations home and abroad, partnered with 86 various departments and institutions, while setting up strategic partnerships with industries corporations and local government in areas such as transport, logistic, information and energy so as to deepen synergetic innovation between political, industrial, educational and research bodies, carrying out long-term, full-range cooperation in talent cultivation and scientific development. The university's education foundation was certified as a 4A charity group by the Ministry of Civil Affairs.

"Think of the source while drinking the water, love thy country and honor the alma mater." With 125 years of glorious history, Beijing Jiaotong University, adhering to the university motto of 'knowing and doing', is undertaking new missions and embracing a pioneering attitude for its stride towards the goal of world first-class university with distinctive characteristics.

China Center for Industrial Security Research

China Center for Industrial Security Research (CCISR) was founded in Beijing Jiaotong University (BJTU) in November, 2007. It is not only the first but also the only academic institute which specializes in the research on industrial security problems in domestic area. CCISR has achieved leapfrog development in such aspects as education, scientific research, talent cultivation and international cooperation and communication through the joint efforts made by all the staff since its foundation. CCISR aims at building the most authoritative academic institution for industrial security problems; takes the promotion of China's industrial security and development as its own duty; and will unremittingly devote itself to scientific creation, educational research, talent cultivation and international academic cooperation and communication.

In recent years, CCISR values highly on the research of industrial security theory and practice. It publishes series of industrial security and development report according to the development status of the first, the second and the third industries and key industries every year. Meanwhile, CCISR also makes monographic studies on the hot issues and difficult problems in current industrial development under the entrustment by governmental departments, international organizations and enterprises. As a result, it has obtained many provincial and ministerial-level projects and horizontal projects including key tender projects of National Social Science Fund, the significant research projects in the prophase of the 12th Five Year Planning of NDRC, the significant research projects of Ministry of Education, ministerial projects of Ministry of Commerce and the ministerial projects of National Insurance Regulatory Commission.

Rooms Layout

Hong Kong Venue

From **the Hong Kong International Airport Airport** to **the Hong Kong Polytechnic University Campus**:

➢ Using **Public Transportation**

★ Walk about 7 minutes from Hong Kong International Airport to the airport (ground transportation center) bus stop, take Citybus A22 (direction of Lantian Station) for 4 stops, then get off at Wylie Road and Gascoigne Road bus stop, and walk about 12 minutes to Hong Kong Polytechnic University.

➢ **Taxi**: 22.5 miles / 36 kilometers. Approximately $7.9

From **High Speed Rail West Kowloon Terminal** to **the Hong Kong Polytechnic University Campus:**

➢ Using **Public Transportation**

★ Get in at Austin MTR Station, take the Tuen Ma line in the direction of Wu Kai Sha, get off at Exit D1 of Hung Hom MTR Station after 2 stops, and walk 414m to Hong Kong Polytechnic University;

★ Walk 186m to West Kowloon Bus Station, take KMB 260X Road Hung Hom to the terminal, get off at the Hong Kong Polytechnic University Bus Station 7 stops later, and walk 96m to Hong Kong Polytechnic University.

➢ **Taxi**: 1.5 kilometers. Approximately $5

Location map of the Hongkong Polytechnic university
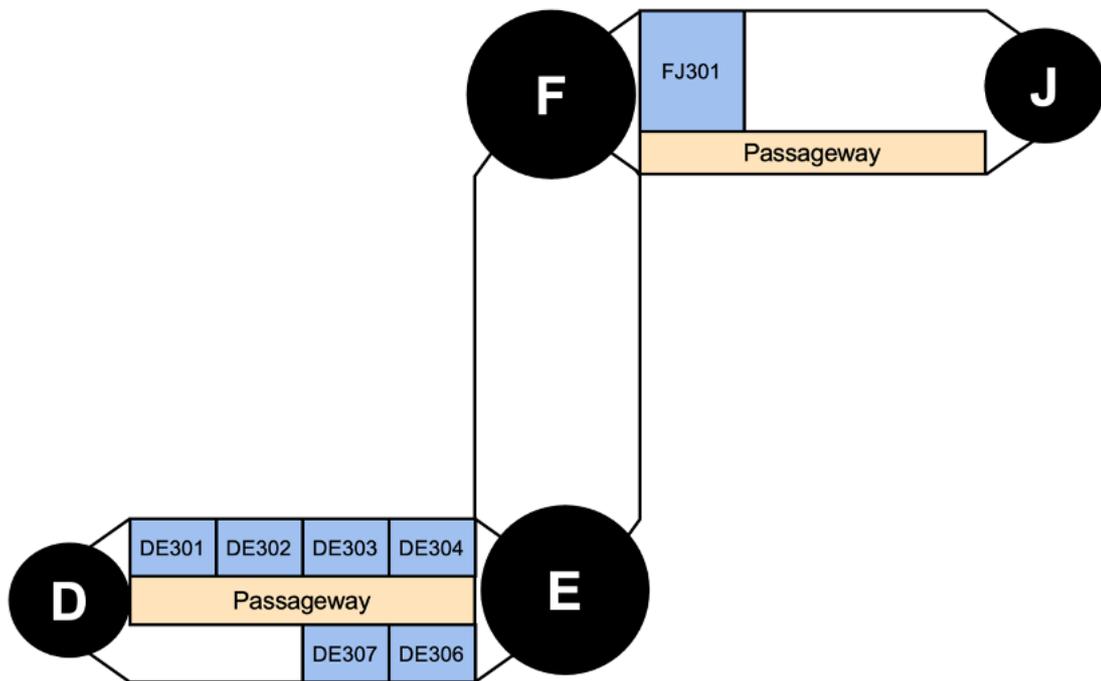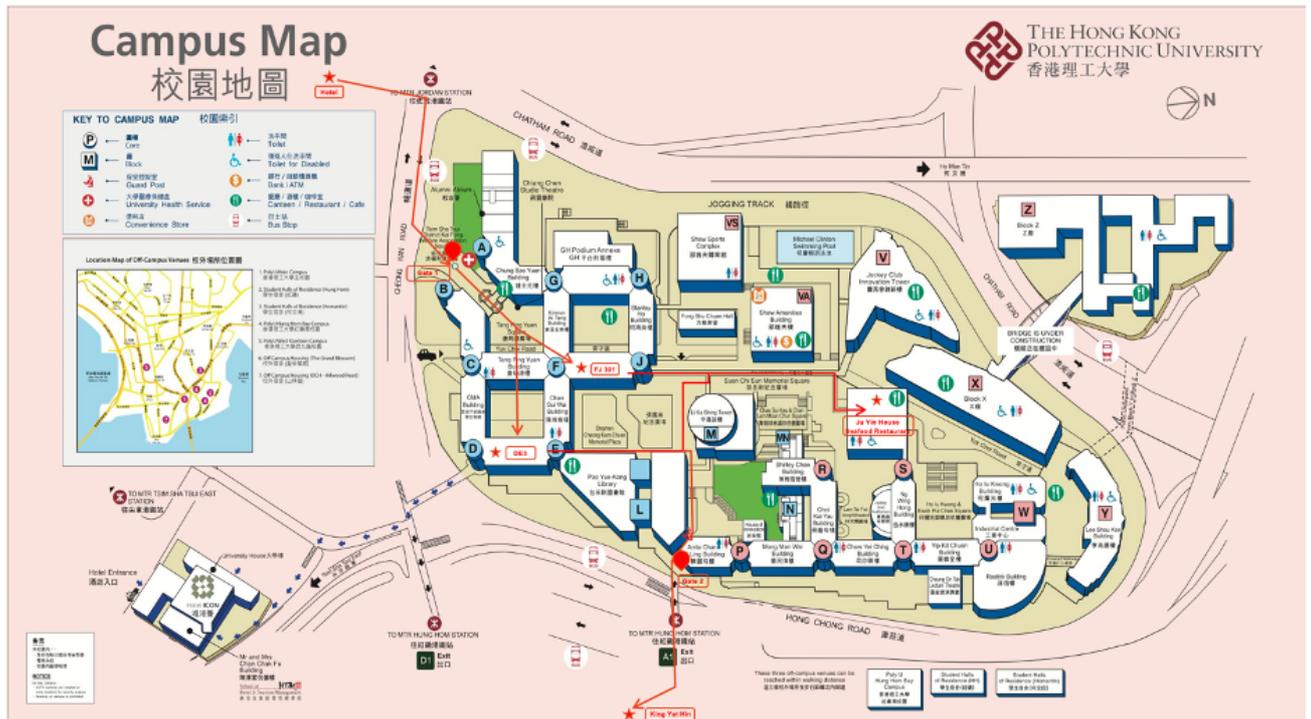
Room FJ301 –Opening Session / Keynote Presentations
Room DE303 –Parallel Sessions

Beijing Venue
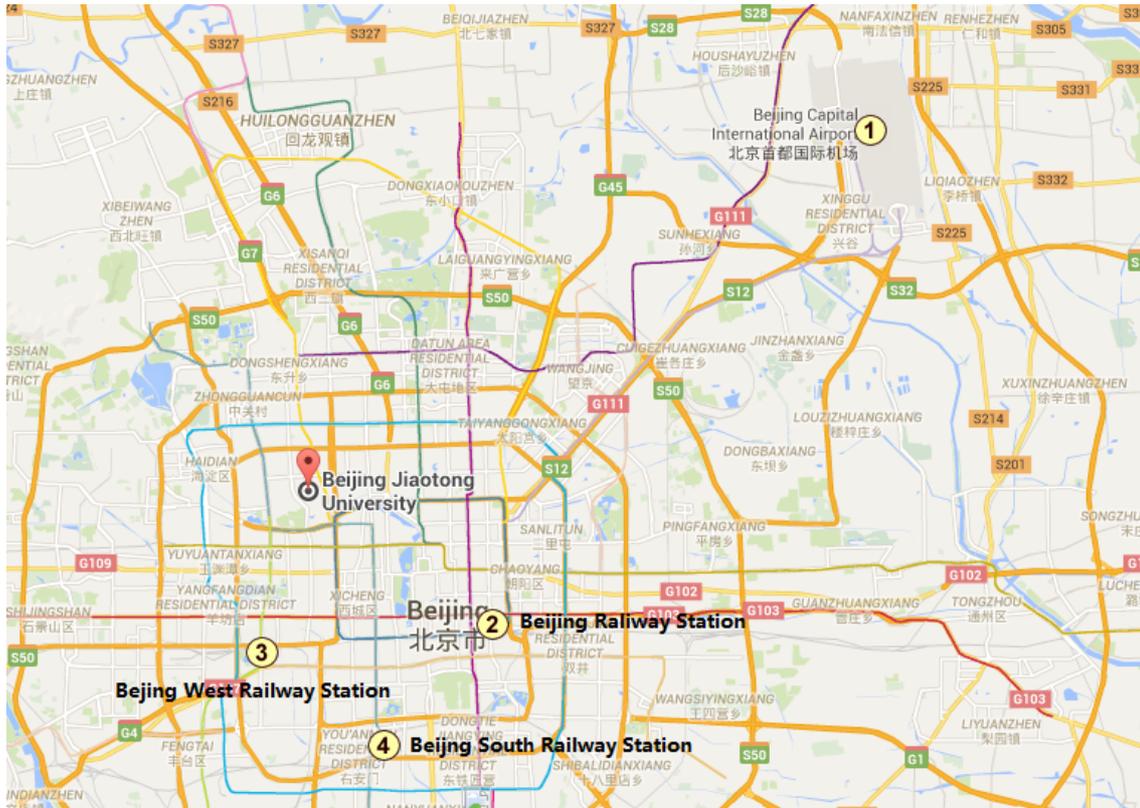
After you arrive in Beijing, you can choose the following way to the meeting place:

- **1. Beijing Capital International Airport**

  ➢ Take the airport express rail (¥25) to Dongzhimen station, MTR 2nd line (¥4) to Xizhimen station. Getting out from exit A, take bus Nos. 16, 26 to Beijing Jiaotong University Station (¥2), go to the **South Gate of Beijing JiaotongUniversity** on foot.

  ➢ Take airport bus (Gongzhufen line) to Beijing Friendship Hotel station (¥16). Walk to the Sitongqiao east bus station, take the bus No. 26 to Daliushu station (¥2), then go to **the west gate of Beijing Jiaotong University** on foot.

  ➢ Take a taxi to **the South Gate of Beijing Jiaotong University** (about ¥100).

- **2. Beijing Railway Station**

  ➢ Get out of the station and take the Subway line 2 to Xizhimen Station (¥4). Getting out from exit A, take bus Nos. 16, 26 to Beijing Jiaotong University Station (¥2), then go to the **South Gate of Beijing Jiaotong University** on foot**.**

  ➢ Get out of the station and take a taxi to **the South Gate of Beijing Jiaotong University** (about ¥45).

- **3. Beijing West Railway Station**
  - ➢ Get out of the station and take the subway line9 to the National Library station, and then transfer to the subway line 4 to Xizhimen Station (¥3). Get out from exit A, take bus Nos. 16, 26 to Beijing Jiaotong University Station (¥2), then go to the **South Gate of Beijing JiaotongUniversity** on foot.
  - ➢ Get out of the station and take a taxi to **the South Gate of Beijing Jiaotong University** (about ¥30).

- **4. Beijing South Railway Station**
  - ➢ Get out of the station and take the subway line4 to Xizhimen Station (¥4). Get out from exit A, take bus Nos. 16, 26 to Beijing Jiaotong University Station (¥2), then go to the **South Gate of Beijing Jiaotong University** on foot.
  - ➢ Get out of the station and take a taxi to **the South Gate of Beijing Jiaotong University** (about ¥40).

Main Campus Map

- ● International Conference Center
- ● Hongguoyuan Restaurant

T. (Teaching) B. (Building) D. (Dormitory)
C. (Cafeteria) H. (Hall)
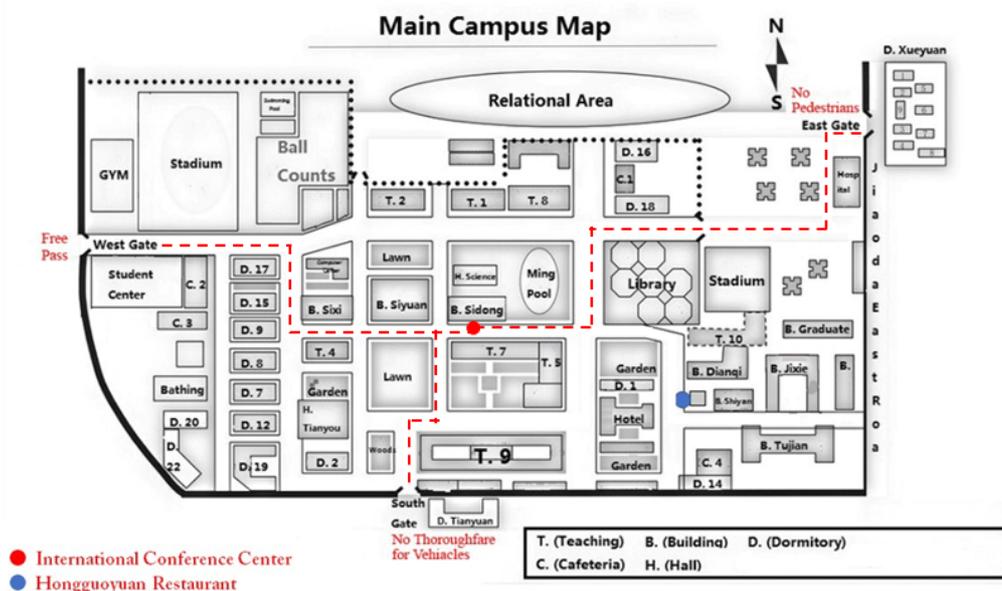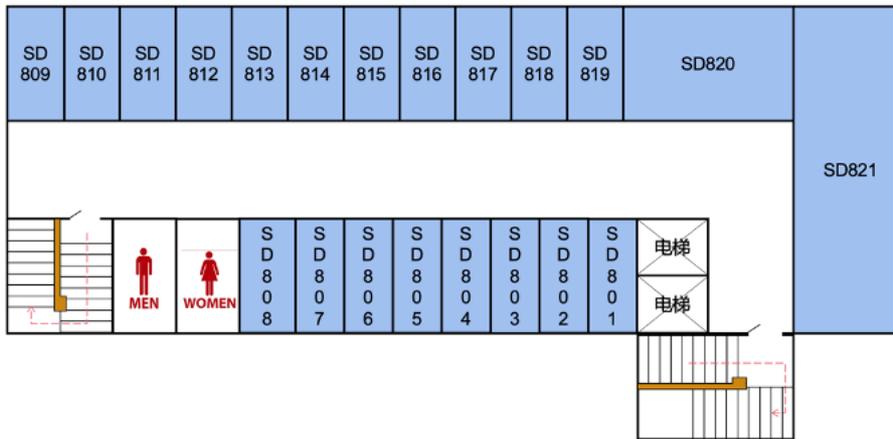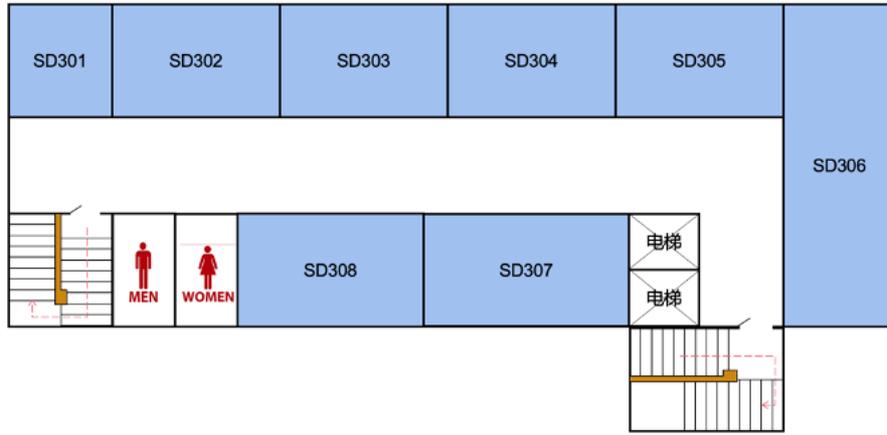
Room SD821–Opening Session / Keynote Presentations
Room SD304 –Parallel Sessions

Program Layout

Hong Kong Venue (Local Time)

From	To		Location	Chair
		July 26, 2023		
07:30	08:30	Registration	Room: FJ301	
08:30	08:50	Opening Ceremony Prof. Zhongliang Guan Prof. Nick Chung Prof. Kecheng Liu	Room: FJ301	Kun Wang
08:50	09:30	Topic: The universal set theory of big data with its application Prof. Xuewei Li	Room: FJ301	Kun Wang
09:30	10:20	Photo & Coffee Break		
10:20	11:00	Topic: Value Cocreation through Transformation to Digital Ecosystems Prof. Kecheng Liu	Room: FJ301	Prof. Xuewei Li
11:00	11:40	Topic: Ring road investment, cordon tolling, and urban spatial structure: Formulation and a case study Prof. Zhichun Li	Room: FJ301	Prof. Kecheng Liu
11:40	12:20	Topic: Emerging Trends in the field of Transportation and the Environment Prof. Ying-En Ge	Room: FJ301	Prof. Zhichun Li
12:40	14:00	Lunch	Ju Yin House Seafood Restaurant	
14:00	16:00	Parallel Sessions	Room: DE303	Session chair
16:00	16:20	Coffee Break		
16:20	17:00	Topic: Data-Driven Decision Analysis in Operations Management Prof. Max Zuojun Shen	Room: DE303	Anqiang Huang
17:00	17:40	Topic: Time-dependent decisions in hub location and routing Prof. Francisco Saldanha da Gama	Room: DE303	Anqiang Huang
19:00		Welcome Reception	Ju Yin House Seafood Restaurant	
		July 27, 2023		
10:00	10:20	Topic: A Deep Bayesian Network approach for analyzing the maritime supply chain cyber-attack surface Prof. Ziting Xu	Room: DE403	Prof. Kam Hung Ng
10:20	10:40	Topic: Seaport Adaptation to Climate Change-related Disasters under Coopetition with Dry Port Prof. Xiangru Wu	Room: DE403	Prof. Kam Hung Ng

10:40	11:00	Topic: How does a single pilot operation in a dual-pilot cockpit system hinder its applicability in commercial airlines? an EEG and eye tracker-based investigation Prof. Kam Hung Ng	Room: DE403	Prof. Kam Hung Ng
11:00	11:20	Topic: Interactions between Allowance Allocation Methods and Selection of Emission Reduction Technologies Prof. Ruqi Zhou	Room: DE403	Prof. Yui-yip Lau
11:20	11:40	Topic: Dynamic effect of subway expansion on the spatial and temporal distribution of road congestion Prof. Xiaolong Li	Room: DE403	Prof. Yui-yip Lau
11:40	12:00	Topic: Maritime Transport Resilience: A Bibliometric Study from 1997 to 2023 Prof. Yui-yip Lau	Room: DE403	Prof. Yui-yip Lau
12:00	14:00	Lunch	Ju Yin House	
14:00	14:20	Topic: Factors affecting the crash severity of autonomous vehicle involved crashes-Some insights from the AV incident Prof. Hanlong Fu	Room: DE403	Prof. Huan Jin
14:20	14:40	Topic: Airline competition in Indonesia and the impact of COVID-19 pandemic Weicheng Wang	Room: DE403	Prof. Huan Jin
14:40	15:00	Topic: E-sharing bicycle parking spots design and dynamic rebalancing problem Huan Jin	Room: DE403	Prof. Huan Jin
15:00	15:30	Coffee Break		
15:30	16:00	Topic: Combining Booking and rationing strategies for equitable travel demand management Prof. Hai Yang	Room: DE403	
16:00	16:20	Topic: Development of Sea-Rail Combined Transportation System between Korea and China Prof. Paul Lee	Room: DE403	
16:20	16:40	Topic: Post-Covid-19, Russo-Ukrainian Conflict, and the Resilience of Maritime Transport: A Research	Room: DE403	

		Agenda Prof. Adolf K.Y. Ng		
16:40	17:00	Topic: Post-Pandemic Recovery in Aviation: a Research Agenda Prof. Bilotkach Volodymyr	Room: DE403	
17:00	17:20	Topic: Mobility change and strategies of railway in the new normal after COVID-19 Prof. Hongchang Li	Room: DE403	
17:20	17:40	Penal Discussions Panelists: Prof. Paul Lee, Prof. Adolf Ng, Prof. Bilotkach Volodymyr, Prof. Hongchang Li, Prof. Xujuan Kuang, Dr. Kun Wang	Room: DE403	Prof. Huan Jin
19:00	21:00	Conference Dinner	King Yat Hin, Fortune Metropolis	
July 28, 2023				
08:30	10:00	Topic: Qualitative Comparative Analysis: an approach based on Boolean algebra Prof. Vicenc Fernandez	Room: DE307	Prof. Muhammet Deveci
10:00	10:30	Coffee Break		
10:30	12:00	Topic: Fuzzy Sets and Their Applications Prof. Muhammet Deveci	Room: DE307	Prof. Vicenc Fernandez

Welcome Reception: Ju Yin House Seafood Restaurant
Address: 4/F, Communal Building, PolyU, Hong Kong China

Banquet: King Yat Hin
Address: 8/F, Harbour Plaza Metropolis, Hongkong, China

Presentation Details of Parallel Sessions

Date	July 26
Time	13:00-15:00
Room DE303	IE1

IE: Industrial Economics

Beijing Venue (Local Time)

From	To		Location	Chair
		July 26, 2023		
07:30	08:30	Registration	Room: SD821	
08:30	08:50	Opening Ceremony Prof. Zhongliang Guan Prof. Nick Chung Prof. Kecheng Liu	Room: SD821	Kun Wang
08:50	09:30	Topic: The universal set theory of big data with its application Prof. Xuewei Li	Room: SD821	Prof. Kecheng Liu
09:30	10:20	Photo & Coffee Break		
10:20	11:00	Topic: Value Cocreation through Transformation to Digital Ecosystems Prof. Kecheng Liu	Room: SD821	Prof. Xuewei Li
11:00	11:40	Topic: Ring road investment, cordon tolling, and urban spatial structure: Formulation and a case study Prof. Zhichun Li	Room: SD821	Prof. Kecheng Liu
11:40	12:20	Topic: Emerging Trends in the field of Transportation and the Environment Prof. Ying-En Ge	Room: SD821	Prof. Zhichun Li
12:20	13:20	Lunch	Hongguoyuan Restaurant	
13:30	16:00	Parallel Sessions	Room: SD304	Session chair
16:00	16:20	Coffee Break		
16:20	17:00	Topic: Data-Driven Decision Analysis in Operations Management Prof. Max Zuojun Shen	Room: SD304	Anqiang Huang
17:00	17:40	Topic: Time-dependent decisions in hub location and routing Prof. Francisco Saldanha da Gama	Room: SD304	Anqiang Huang

Lunch: Hongguoyuan Restaurant

Address: Beijing Jiaotong University, No.3, Shangyuancun, Xizhimen Outer Hongguoyuan Hotel 2 Floor, Haidian,Beijing, China

Presentation Details of Parallel Sessions

Date	July 26
Time	13:30-16:00
SD304	IE2

IE: Industrial Economics

Final Program

Contents

Conference Opening ceremony (Beijing Time 08:30 - 08:50)
Chair: Kun Wang
Room: The Hong Kong Polytechnic University FJ301
VooV Meeting ID: 966-189-680 (Password: 072601)
Backup VooV Meeting ID: 730-209-985

Plenary Session 1 (Beijing Time 08:50 -09:30)
Title: The universal set theory of big data with its application
Speaker: Xuewei Li
Chair: Kun Wang
Room: The Hong Kong Polytechnic University FJ301
VooV Meeting ID: 966-189-680 (Password: 072601)
Backup VooV Meeting ID: 730-209-985

Plenary Session 2 (Beijing Time 10:20 -11:00)
Title: Value Cocreation through Transformation to Digital Ecosystems
Speaker: Kecheng Liu
Chair: Prof. Xuewei Li
Room: The Hong Kong Polytechnic University FJ301
VooV Meeting ID: 966-189-680 (Password: 072601)
Backup VooV Meeting ID: 730-209-985

Plenary Session 3 (Beijing Time 11:00 -11:40)
Title: Ring road investment, cordon tolling, and urban spatial structure: Formulation and a case study
Speaker: Zhichun Li
Chair: Prof. Kecheng Liu
Room: The Hong Kong Polytechnic University FJ301
VooV Meeting ID: 966-189-680 (Password: 072601)
Backup VooV Meeting ID: 730-209-985

Plenary Session 4 (Beijing Time 11:40.-12:20)
Title: Emerging Trends in the field of Transportation and the Environment
Speaker: Ying-En Ge
Chair: Prof. Zhichun Li
Room: The Hong Kong Polytechnic University FJ301
VooV Meeting ID: 966-189-680 (Password: 072601)
Backup VooV Meeting ID: 730-209-985

Plenary Session 5 (Beijing Time 16:20 -17:00)

Title: Data-Driven Decision Analysis in Operations Management
Speaker: Max Zuojun Shen
Chair: Anqiang Huang
Room: The Hong Kong Polytechnic University DE303
VooV Meeting ID: 871-315-365 (Password: 072603)
Backup VooV Meeting ID: 819-354-633

Plenary Session 6 (Beijing Time 17:00 -17:40)
Title: Time-dependent decisions in hub location and routing
Speaker: Francisco Saldanha da Gama
Chair: Anqiang Huang
Room: The Hong Kong Polytechnic University DE303
VooV Meeting ID: 871-315-365 (Password: 072603)
Backup VooV Meeting ID: 819-354-633

July 27, 2023

Plenary Session 1 (Beijing Time 10:00-10:20)
Title: A Deep Bayesian Network approach for analyzing the maritime supply chain cyber-attack surface
Speaker: Ziting Xu
Chair: Prof. Kam Hung Ng
Room: The Hong Kong Polytechnic University DE403

Plenary Session 2 (Beijing Time 10:20-10:40)
Title: Seaport Adaptation to Climate Change-related Disasters under Coopetition with Dry Port
Speaker: Xiangru Wu
Chair: Prof. Kam Hung Ng
Room: The Hong Kong Polytechnic University DE403

Plenary Session 3 (Beijing Time 10:40-11:00)
Title: How does a single pilot operation in a dual-pilot cockpit system hinder its applicability in commercial airlines? an EEG and eye tracker-based investigation
Speaker: Kam Hung Ng
Chair: Prof. Kam Hung Ng
Room: The Hong Kong Polytechnic University DE403

Plenary Session 4 (Beijing Time 11:00-11:20)
Title: Interactions between Allowance Allocation Methods and Selection of Emission Reduction Technologies
Speaker: Ruqi Zhou

Chair: Prof. Yui-yip Lau
Room: The Hong Kong Polytechnic University DE403

Plenary Session 5 (Beijing Time 11:20-11:40)
Title: Dynamic effect of subway expansion on the spatial and temporal distribution of road congestion
Speaker: Xiaolong Li
Chair: Prof. Yui-yip Lau
Room: The Hong Kong Polytechnic University DE403

Plenary Session 6 (Beijing Time 11:40-12:00)
Title: Maritime Transport Resilience: A Bibliometric Study from 1997 to 2023
Speaker: Yui-yip Lau
Chair: Prof. Yui-yip Lau
Room: The Hong Kong Polytechnic University DE403

Plenary Session 7 (Beijing Time 14:00-14:20)
Title: Factors affecting the crash severity of autonomous vehicle involved crashes-Some insights from the AV incident
Speaker: Hanlong Fu
Chair: Prof. Huan Jin
Room: The Hong Kong Polytechnic University DE403

Plenary Session 8 (Beijing Time 14:20-14:40)
Title: Airline competition in Indonesia and the impact of COVID-19 pandemic
Speaker: Weicheng Wang
Chair: Prof. Huan Jin
Room: The Hong Kong Polytechnic University DE403

Plenary Session 9 (Beijing Time 14:40-15:00)
Title: E-sharing bicycle parking spots design and dynamic rebalancing problem
Speaker: Huan Jin
Chair: Prof. Huan Jin
Room: The Hong Kong Polytechnic University DE403

Plenary Session 10 (Beijing Time 15:30-16:00)
Title: Combining Booking and rationing strategies for equitable travel demand management
Speaker: Hai Yang
Room: The Hong Kong Polytechnic University DE403

Plenary Session 11 (Beijing Time 16:00-16:20)
Title: Development of Sea-Rail Combined Transportation System between Korea and China
Speaker: Paul Lee
Room: The Hong Kong Polytechnic University DE403

Plenary Session 12 (Beijing Time 16:20-16:40)
Title: Post-Covid-19, Russo-Ukrainian Conflict, and the Resilience of Maritime Transport: A Research Agenda
Speaker: Adolf K.Y. Ng
Room: The Hong Kong Polytechnic University DE403

Plenary Session 12 (Beijing Time 16:40-17:00)
Title: Post-Pandemic Recovery in Aviation: a Research Agenda
Speaker: Bilotkach Volodymyr
Room: The Hong Kong Polytechnic University DE403

Plenary Session 13 (Beijing Time 17:00-17:20)
Title: Mobility change and strategies of railway in the new normal after COVID-19
Speaker: Hongchang Li
Room: The Hong Kong Polytechnic University DE403

July 28, 2023

Lecture 1 (Beijing Time 08:30 -10:00)
Title: Qualitative Comparative Analysis: an approach based on Boolean algebra
Speaker: Vicenc Fernandez
Chair: Prof. Muhammet Deveci
Room: The Hong Kong Polytechnic University DE307

Lecture 2 (Beijing Time 10:30 -12:00)
Title: Fuzzy Sets and Their Applications
Speaker: Muhammet Deveci
Chair: Prof. Vicenc Fernandez
Room: The Hong Kong Polytechnic University DE307

Session Schedule

Hongkong Venue (Local Time)

Parallel Sessions (14:00-16:00)

Room: The Hong Kong Polytechnic University DE303
VooV Meeting ID: 464-924-240 (Password: 072602)
Backup VooV Meeting ID: 517-438-119
IE1: Industrial Economics 1
Chair: Yuan Xu

- IEIS2023_11: Business Group Affiliation, Ownership Types, and QFII Shareholding Preference
  (*Yuejiao Zhao, Xiaojun Jia, Ruofan Zhao, Li Zheng, Weizhen Gao*)
- IEIS2023_30: Research on the Transfer Effect of ManufacturingIndustry in Beijing-Tianjin-Hebei UrbanAgglomeration under the Background of CarbonPeak
  (*Junwei Feng, Jianghui Liu, Huichun Che*)
- IEIS2023_37: Testing for Nonlinear Granger Causality between Bitcoin Market and Crude Oil Market
  (*Fang Wang, Menggang Li*)
- IEIS2023_59: Ordering and Pricing Decisions Considering Capital Constraint and Loss aversion
  (*Liu Jinfeng, Song Guang, Li Juan*)
- IEIS2023_10: High-Speed Rail Network, Industrial Structure Upgrading and Urban Employment Density
  (*Yunhe Zhao, Weidong Li, Yuzhuotong Zhang*)
- IEIS2023_12: Relationship among Capital Structure, R&D Investment, and Firm Growth of Single Champion
  (*Zhennan Zhao, Yang Zhao, Zeyu Zhou*)
- IEIS2023_34: An empirical study of stock market bubbles based on the GSADF method
  (*Chao Zheng*)

Beijing Venue (Local Time)

Parallel Sessions (13:30-16:00)

Room: Beijing jiaotong University SD304
IE2: Industrial Economics 2
Chair: Nan Li

- IEIS2023_26: The Impact of Digital Economy on Farmers' Income——A Mechanism Analysis Based on Farmers' Credit
  (*Rongbing*)
- IEIS2023_28: Allocation of urban spatial resources and the new industrial revolution
  (*Zhao Yunyi, Zhao Jian*)
- IEIS2023_29: Research on the influence of financial development on industrial structure upgrading
  (*Nan Li, Xiaojun Jia*)
- IEIS2023_32: Bank Resilience and Risk-taking Behavior: Evidence from Commercial Banks in China
  (*Yao Wu, Yincheng Li, Zixuan Zhou, Yiran Ji, Linjie Fu, Rui Zhang*)
- IEIS2023_39:Research on Multi-source Data Fusion Technologyfor Vehicle-Track Integration Testing Based on 5GCommunication
  (*Junyi Xue, Chai Jinchuan, Wei Guili*)
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