Conference Program

ITQM 2025

12th International Conference on Information Technology and Quantitative Management

Rutgers Business School, USA
August 15-17, 2025

iTQM International Academy
The International Academy of Information Technology and Quantitative Management

CONTENTS

ITQM 2025 AT A GLANCE

	Friday, August 15		***Saturday, August 16***
08:30-09:00	Registration	**09:00-09:30**	Registration
09:00-09:20	Opening Session & Remarks (Group Photo)	**09:30-10:10**	Keynote Speech IV Fouad Ben Abdelaziz
09:20-10:00	Keynote Speech I Ralph E. Steuer	**10:10-10:50**	Keynote Speech V Yanzhong Dang
10:00-10:40	Keynote Speech II Mohamed Abdel-Mottaleb	**10:50-11:00**	Coffee Break
10:40-10:50	Coffee Break	**11:00-11:25**	Plenary Speech I Celestine Iwendi
10:50-11:30	Keynote Speech III Luis G. Vargas	**11:25-11:50**	Plenary Speech II Akshit Kurani
11:30-12:40	Break & Lunch	**11:50-13:00**	Break & Lunch
12:40-14:00	Deans' Panel (see detailed schedule)	**13:00-14:20**	Invited Panel & Sessions (see detailed schedule)
14:00-14:10	Coffee Break	**14:20-14:30**	Coffee Break
14:10-15:30	Invited Panel & Sessions (see detailed schedule)	**14:30-17:30**	Parallel Sessions/Workshops (see detailed schedule)
15:30-17:30	Parallel Sessions/Workshops (see detailed schedule)		***Sunday, August 17***
18:00-21:00	IAITQM Award Ceremony & Banquet (Rutgers Club)	**9:30-12:00**	Parallel Sessions/Workshops (see detailed schedule)
In Banquet	IAITQM Committee Members' Gathering	**12:00-13:00**	Organizing Committee Meeting (Invited Only)

General Information

- **Conference Venue**

  Rutgers Business School - New Brunswick (100 Rockafeller Rd, Piscataway, NJ 08854, USA)

- **Main Sites for Registration**

  (If early) August 14, 2025: Lobby of Holiday Inn Piscataway - Somerset (see Hotel Recommendations)

  (Conference Days) August 15-17, 2025: Rutgers Business School - New Brunswick

- **IAITQM Awards Ceremony and Banquet**

  Time: 18:00--21:00, August 15, 2025

  Venue: The Rutgers Club (85 Avenue E 2nd Floor, Piscataway, NJ 08854, USA)

- **Awards Arrangement in the Ceremony**

Award	Daniel Berg Award	Richard Price Award	Walter Scott Award	Siwei Cheng Award
Presented by	Daniel Berg	Yong Shi	James M. Tien	Cheng-Few Lee
Award	Thomas Saaty Award	Herbert Simon Award	Blaise Pascal Award	
Presented by	John Saaty	Wikil Kwak	Xiaodong Lin	

- **Instruction for All Speakers**

  Keynote Speech: 40 minutes for speech and QA

  Plenary Speech: 25 minutes for speech and QA

  Oral Presentation for Paper: 10 minutes for presentation and QA

Welcome Message from ITQM 2025 Organizers

Welcome to the **Twelfth International Conference on Information Technology and Quantitative Management (ITQM 2025), August 15-17, Rutgers Business School, USA**. The theme of ITQM 2025 is "**Merging Artificial Intelligence and Business Applications**". ITQM 2025 is organized by International Academy of Information Technology and Quantitative Management (IAITQM), Rutgers Business School.

IAITQM was formally inaugurated on June 3, 2012 with more than 50 founding members from China, United States, Australia, Japan, Lithuania, Poland, Romania, Spain, Singapore, South Korea, Netherlands, Turkey and other countries. The International Conference on Information Technology and Quantitative Management (ITQM), established by IAITQM, is a global forum for exchanging research findings and case studies that bridge the latest information technology and quantitative management techniques. It explores how the use of information technology techniques to improve quantitative management and how the development of management tools can reshape the development of information technology. The First International Conference on Information Technology and Quantitative Management (ITQM 2013) took place in Suzhou, China. The Second International Conference on Information Technology and Quantitative Management (ITQM 2014) was held at Moscow, Russia. The Third International Conference on Information Technology and Quantitative Management (ITQM 2015) was held at Rio de Janeiro, Brazil. The Forth International Conference on Information Technology and Quantitative Management (ITQM 2016) was held at Asan, Korea. The Fifth International Conference on Information Technology and Quantitative Management (ITQM 2017) was held at New Delhi, India. The Sixth International Conference on Information Technology and Quantitative Management (ITQM 2018) was hosted at Omaha, USA. The Seventh International Conference on Information Technology and Quantitative Management (ITQM 2019) was held at Granada, Spain. The Eighth International Conference on Information Technology and Quantitative Management (ITQM 2020 & 2021) took place in Chengdu, China (hybrid mode). The Ninth International Conference on Information Technology and Quantitative Management (ITQM 2022) was held in Beijing, China (online mode). The Tenth International Conference on Information Technology and Quantitative Management (ITQM 2023) was hosted at Oxford, UK. The Eleventh International Conference on Information Technology and Quantitative Management (ITQM 2024) took place at Bucharest, Romania.

ITQM 2025 covers all topics in the broad ranges of Information Technology and Quantitative Management, including but not limited to:

- ✓ Advances in B2B, B2C and C2C Environments
- ✓ Advances in Quality Management
- ✓ Agricultural Markets and International Trade
- ✓ Artificial Intelligence
- ✓ Asset Pricing
- ✓ Banking regulation and financial services
- ✓ Big data and Deep learning
- ✓ Big data in finance
- ✓ Brands and Consumer Behavior
- ✓ Business Analytics Tools
- ✓ Commodity and Product Pricing
- ✓ Computer Supported Collaborative Decision-making

- ✓ Contemporary Leadership issues
- ✓ Corporate finance and capital structure
- ✓ Data Mining and Data Warehousing
- ✓ Data Science
- ✓ Decision Support Systems
- ✓ Digital Learning and Organization
- ✓ Digital Marketing
- ✓ Employability Skills and Talent Management
- ✓ Financial Econometrics
- ✓ Financial literacy and financial education
- ✓ Global Recession
- ✓ Human Resource Management
- ✓ Investment management
- ✓ IoT (Internet of Things)
- ✓ IT-enabled quantitative management
- ✓ Management of Technology
- ✓ Managing Global Value Chains
- ✓ Market Volatility and Financial Innovation
- ✓ Mobile technologies and cloud computing
- ✓ Multicriteria Analysis related to IT-enabled quantitative management
- ✓ Neuro Marketing
- ✓ Quantitative management tools
- ✓ Semantic learning and intelligent awareness
- ✓ Service Operations Management
- ✓ Social Media
- ✓ Social Media and Mobile Marketing
- ✓ Soft computing methods
- ✓ Sustainability Issues in Trade
- ✓ Sustainable Supply Chain Management
- ✓ Technology for Training and Development
- ✓ Technology in Banking and Insurance
- ✓ Web intelligence

ITQM 2025 will focus on technical exchanges within the research community, encompassing some invited keynote lectures, panel talks, special sessions and workshops. At ITQM 2025, we have **invited the following 5 world leading keynote speakers** to give their current and future visions about Information Technology and Quantitative Management:

- ✓ Ralph E. Steuer, University of Georgia on "**On the Differences between Bi-Criterion and Tri-Criterion Portfolio Selection in Graphs**"
- ✓ Yanzhong Dang, Dalian University of Technology on "**Third Data and its Spiral Pattern of Knowledge Creation**"

- ✓ Mohamed Abdel-Mottaleb, Indiana University Indianapolis on "**Applications of Deep Learning in Ophthalmology and Oncology**"
- ✓ Luis G. Vargas, University of Pittsburgh on "**Cognitive AI in Conflict Resolution**"
- ✓ Fouad Ben Abdelaziz, NEOMA Business School on "**Multiobjective Stochastic Optimization for Portfolio Selection**"

In addition, we have also **invited 2 international scholars** presenting their research findings as the plenary speakers as below:

- ✓ Celestine Iwendi, University of Bolton on "**Pointer-Based Item-to-Item Collaborative Filtering Recommendation System Using a Machine Learning Model**"
- ✓ Akshit Kurani, Indus University on "**A Comprehensive Comparative Study of Artificial Neural Network (ANN) and Support Vector Machines (SVM) on Stock Forecasting**"

Besides, this year we have specially **arranged a Deans' Panel**, to discuss the "**AI Impact on Business and Engineering Education**" with following Deans or former Deans at business schools around the globe:

- ✓ Alberto Cuitiño, Dean of School of Engineering, Rutgers University
- ✓ Ananth Iyer, Dean of School of Management, University at Buffalo
- ✓ Gert-Jan de Vreede, Dean of School of Business, Stevens Institute of Technology
- ✓ James M Tien (NAE Member), Former Dean of College of Engineering, University of Miami
- ✓ Lei Lei, Dean of Rutgers Business School
- ✓ Nitin Upadhyay, Dean (Academics) & Chairperson MBA, Indian Institute of Management Jammu
- ✓ Xiaobo Xu, Executive Dean of College of Industry-Entrepreneurs, Xi'an Jiaotong-Liverpool University

There are nearly **800 scholars and students from 15 countries and regions** who submitted their papers to ITQM 2025. The authors are from China, Brazil, Russia, Chile, Bangladesh, United States, India, Bolivia, Romania, Spain, Austria, Czechia, Iran, Mexico and Peru. After peer-reviewing process, we have **accepted 174 papers** from all submitted papers for presentation at the conference. These papers are published by **Elsevier** in its **Procedia Computer Science** series and this conference is allocated into 1 General Session and 19 Paralleled Special Sessions/Workshops.

Like previous conferences, ITQM 2025 relies strongly on the vital contributions of our organizers to attract high quality papers in many subject areas. Here we'd like to thank all special sessions and workshops organizers, all ITQM committee members and reviewers for their contribution to ensure a high standard for the accepted papers. We would like to express our gratitude to the conference committees for their enthusiastic work towards the success of ITQM 2025. We owe special thanks to our sponsors for their generous support, they are:

- ✓ Rutgers Business School;
- ✓ Research Centre on Fictitious Economy and Data Science, Chinese Academy of Sciences;
- ✓ University of Nebraska at Omaha;
- ✓ Business Intelligence Society, Chinese Academy of Management.

We wish you an enjoyable and successful conference this year!

August 15-17, 2025

Rutgers Business School, USA

Detailed Schedule

Friday, August 15

Keynote/Plenary Speeches

Keynote Speech I
Friday, August 15, 9:20--10:00
Room: 1095
Zoom Meeting ID: 912 7690 1786
Password: 889807

On the Differences between Bi-Criterion and Tri-Criterion Portfolio Selection in Graphs

Speaker: Ralph E. Steuer

Sanford Family Distinguished Chair in Business, Department of Finance, Terry College of Business, University of Georgia

Host: Fouad Ben Abdelaziz

Abstract: In bi-criterion (risk-return) portfolio selection the theory of Markowitz is known to all financial professionals. However, there is no theory of that stature pertaining to the rapidly growing area of tri-criterion (for example, with ESG) portfolio selection in which the efficient frontier becomes an efficient surface. Furthermore, in contrast to an efficient frontier, it is virtually impossible to identify one's best point on an efficient surface by just looking at it. There are other difficulties, but all can be overcome toward the goal of doing so in an intellectually sound yet conceptually simplistic fashion. Many 3-space graphs are used to illustrate.

Speaker Biography: Ralph E. Steuer is the Sanford Family Distinguished Chair of Business in the Department of Finance at the University of Georgia. He has an electrical engineering degree from Brown University, an MBA from Cornell University, and a Ph.D. in quantitative methods in business from the University of North Carolina. He is the author of "Multiple Criteria Optimization: Theory, Computation and Application" and over 100 research articles. His research interests are in multiple-attribute portfolio theory, sustainable investing, and multiple criteria optimizations. Prior to joining the University of Georgia, he was a Visiting Associate Professor at Princeton University (one year) and on the faculty of the University of Kentucky (eight years).

Keynote Speech II
Friday, August 15, 10:00--10:40
Room: 1095
Zoom Meeting ID: 912 7690 1786
Password: 889807

Applications of Deep Learning in Ophthalmology and Oncology

Speaker: Mohamed Abdel-Mottaleb

Founding chair, Department of Computer Science, Luddy School of Informatics, Computing and Engineering, Indiana University in Indianapolis

Host: James M. Tien

Abstract: In this presentation, I will provide an overview of our research in Machine Learning for ophthalmology and oncology, focusing on the transformative role of deep learning in these fields. In ophthalmology, I will discuss our work on diagnosing glaucoma from retinal fundus images using deep learning algorithms, as well as our new segmentation techniques for measuring corneal layer thickness from Optical Coherence Tomography (OCT) images. These approaches are important for detecting subtle changes associated with corneal diseases such as Fuchs' dystrophy, keratoconus, and corneal graft rejection. Additionally, I will introduce a novel assistive solution for individuals with severe glaucoma or macular degeneration. I will discuss the future of AI in ophthalmology, where ophthalmologists can expect to see AI changing the way we detect cataracts, capture 3D images, and train surgeons. Generative AI may eventually contribute to developing algorithms to diagnose rare diseases. In oncology, I will highlight our efforts in assessing neoadjuvant treatment efficacy and improving mass detection across different mammogram views. I will present how deep learning-based approaches can assist in the early prediction of neoadjuvant treatment outcomes from multimodal data, empowering oncologists to make more informed and effective treatment decisions. Looking ahead, I will discuss how AI's future in oncology will likely see increased integration with radiomics and genomics to enable personalized treatment plans. In addition, I will also discuss the potential of

federated learning in medical imaging, emphasizing how it can enhance data privacy and security in healthcare.

Speaker Biography: Mohamed Abdel-Mottaleb received the Ph.D. degree in computer science from the University of Maryland, College Park, in 1993. He joined Indiana University (IU), Indianapolis, in 2024, as the Luddy Professor and Founding Chair of Computer Science. Before joining IU, he was a Professor and Chairman of the Department of Electrical and Computer Engineering at the University of Miami. His research interests span biometrics, visual tracking, human activity recognition, and medical image processing. Prior to joining the University of Miami, he was with Philips Research, Briarcliff Manor, NY, from 1993 to 2000, where he was a Principal Member of the Research Staff and a Project Leader. At Philips Research, he led several projects in image processing and content-based multimedia retrieval. He represented Philips in the standardization activity of ISO for MPEG-7, where some of his work was included in the standard. He holds 23 U.S. patents and more than 30 international patents. He published more than 180 journal and conference papers in the areas of image processing, computer vision, and content-based retrieval. He has been an IEEE fellow since January 2011.

Keynote Speech III
Friday, August 15, 10:50--11:30
Room: 1095
Zoom Meeting ID: 912 7690 1786
Password: 889807

Cognitive AI in Conflict Resolution

Speaker: Luis G. Vargas

Professor of Operations, Decision Science, and Artificial Intelligence, School of Business, University of Pittsburgh

Host: Wei Gu

Abstract: Were one to ask an AI system to answer the question "Would a machine such as you be able to negotiate a conflict impartially?", the answer reveals major issues with AI systems today such as potential bias in training data, understanding impartiality, lack of emotional intelligence, and the need for transparency and explainability. We propose a way to address these issues with research involving the Analytic Hierarchy Process and its extensions to the continuous case, and how our approach can be used in conflict resolution.

Speaker Biography: Luis G. Vargas was the recipient of the Juan March Foundation Scholarship, Madrid, Spain, to the University of Pennsylvania in 1976-78. He won the Outstanding Professor of the Year Award at the Joseph M. Katz Graduate School of Business in 1984. He was the coordinator of the Quantitative Interest Group from 1987 to 1991; the coordinator of the Artificial Intelligence Interest Group from 1991 to 1994; Area Director of Decision, Operations and Information Technology 2009-2012; chair of the Second International Symposium on the Analytic Hierarchy Process (ISAHP), held in Pittsburgh August 11-14, 1991, at the Joseph M. Katz Graduate School of Business; and the 15th ISAHP held in Hong Kong July 12-15, 2018. He is also Founder and Director of the International Center for Conflict Resolution 2018. Luis Vargas has focused his research on decision theory, practical applications of the Analytic Hierarchy Process (AHP, measurement of resource utilization, group decision making, forecasting, and conflict resolution).

Invited Panels & Sessions

Deans' Panel: AI Impact on Business and Engineering Education
Moderator: Lei Lei
Friday, August 15, 12:40--14:00
Room: 1095
Zoom Meeting ID: 912 7690 1786
Password: 889807

Alberto Cuitiño

Dean of School of Engineering, Rutgers University

Ananth Iyer

Dean of School of Management, University at Buffalo

Gert-Jan de Vreede

Dean of School of Business, Stevens Institute of Technology

James M Tien (NAE Member)

Former Dean of College of Engineering, University of Miami

Lei Lei

Dean of Rutgers Business School

Nitin Upadhyay

Dean (Academics) & Chairperson MBA, Indian Institute of management Jammu

Xiaobo Xu

Executive Dean of College of Industry-Entrepreneurs, Xi'an Jiaotong-Liverpool University

Invited Panel: AI in Marketing
Moderator: Christopher Ribeiro
Friday, August 15, 14:10--15:30
Room: 1095
Zoom Meeting ID: 912 7690 1786
Password: 889807

Kathleen Livingston

EVP Marketing at BCI brands

Mario Lang

Estee Lauder - Executive Director, Global Retail Technology

Pankaj Chopra

Mondelez International, VP & Head, Analytics & Insights

Starr James

PVH Corp (Calvin Klein, Tommy Hilfiger), VP Digital Products

Invited Session: AI-enabled Accounting and Auditing
Moderator: Hussein Issa
Friday, August 15, 14:10--15:30
Room: 5071
Zoom Meeting ID: 935 1638 1863
Password: 826174

Design AI Agent for Auditing

Miklos Vasarhelyi and Fangbing Xiong, Rutgers University

Known, Knowns, and Unknowns: the Big Data capture in the age of AI

Michael Alles, Rutgers University

An AI-Driven Conversational Agent for Proactive Expense Reimbursement Compliance

Jiaqi Sun, Rutgers University

Invited Session: AI in Financial Research
Friday, August 15, 14:10--15:30
Room: 2071
Zoom Meeting ID: 973 0657 9326
Password: 213956

Keeping the Faith (and the Returns): An AI Approach to Values-based Investing

Artem Streltsov, Cornell University

Harnessing Generative AI for Economic Insights

Manish Jha, Georgia State University

Topic Modeling of Business News in Financial Forecasts

Chunchi Wu, University at Buffalo

Tests of the IPCA model with serially dependent factors

Chunchi Wu, University at Buffalo

Parallel Sessions & Workshops

Main Track (Part I)
Chairs: Yong Shi, Pei Quan, Yi Qu
Friday, August 15, 15:30--17:30
Room: 2071
Zoom Meeting ID: 973 0657 9326
Password: 213956
Volunteer: Muyang Li

Research on the Redundant Calculation of Environmental Rights in Renewable Energy (ID: 1)

Hanyuan Wang, Yiyang Liu, Lixuan He, Chan Chen, Yifan Zhang, Haixing Gao and Jianying Wu

Assessment of the Impact of the EU's Carbon Border Adjustment Mechanism on China in the Context of Global Climate Governance (ID: 2)

Jing Cao, Chen Fang, Bin Wang, Xian Hu and Shuxin Yan

Selection of Humidity and Temperature Sensor Using the AHP-TOPSIS-2N Hybrid Multi-Criteria Decision Method for Data Collection in Soybean and Corn Plantation (ID: 12)

Bruno Pereira Diniz, Daniel Augusto de Moura Pereira, Miguel Ângelo Lellis Moreira, Arthur Pinheiro de Araujo Costa, Igor Pinheiro de Araujo Costa, Carlos Francisco Simões Gomes and Marcos Santos

Relationship Between Economics and Performance at the 2024 Olympic Games: A K-Means Approach (ID: 14)

Juliana Figueiras de Souza, Miguel Ângelo Lellis Moreira, Luiz Paulo Fávero and Marcos Santos

Forecasting the urban domestic waste clearance volume in the West Coast Economic Zone of the Taiwan Strait based on the ARIMA model (ID: 28)

Haixu Song, Shaoqing Zhang and Qixuan Zhao

Multicriteria Analysis for the Evaluation of Managers in Healthcare: A Hybrid Approach Through the CRITIC-WASPAS Method (ID: 42)

Michele Ferreira Moreira, Fábio Henrique Martins Queiroz, Silmara Scontre, Antonio Sergio Silva, Miguel Ângelo Lellis Moreira and Marcos Santos

Multilevel Strategic Planning in Defence Policy: A Case Study Through the SAPEVO-H² Method (ID: 43)

Miguel Ângelo Lellis Moreira, Luiz Frederico Horácio S. B. Teixeira, Igor Pinheiro de Araujo Costa, Arthur Pinheiro de Araújo Costa, Carlos Francisco Simões Gomes and Marcos Santos

Optimizing healthcare decision support: A SPOTIS-based multi-criteria approach for portable ultrasound selection (ID: 44)

Antonio Sergio Silva, Fábio Henrique Martins Queiroz, Michele Ferreira Moreira, Carlos Francisco Simões Gomes, Miguel Ângelo Lellis Moreira and Marcos Santos

Integration of the SAPEVO-H² Method into Capability-Based Planning: Strategic Modeling for National Defense (ID: 46)

Miguel Ângelo Lellis Moreira, Bruno Pereira Diniz, Igor Pinheiro de Araujo Costa, Arthur Pinheiro de Araújo Costa, Carlos Francisco Simões Gomes and Marcos Santos

Choice of devices for radial artery puncture in patients undergoing major surgery: an approach through the TOPSIS multicriteria decision support method (ID: 47)

Lilia Ávila dos Santos Sá, Fábio Henrique Martins Queiroz, Michele Ferreira Moreira, Ana Claudia Luna Candido, Antonio Sergio Silva, Miguel Ângelo Lellis Moreira and Marcos Santos

Method for choosing models to estimate efficiency in Brazilian sanitation sector (ID: 48)

Pedro Henrique de Matos Araujo, Igor Pinheiro de Araujo Costa, Miguel Ângelo Lellis Moreira, Luiz Paulo Fávero and Marcos Santos

Analytical Approach for Churn Prediction: A Study Based on the Gaussian AHP Method (ID: 49)

Julia Lazarte Duarte, Igor Pinheiro de Araujo Costa, Miguel Ângelo Lellis Moreira, Luiz Paulo Fávero and Marcos Santos

SS 01: IT Supported Collaborative Work in Management and Control in AI Era: Methods, Tools, Systems, Applications, and Evaluation
Chairs: Florin G. Filip, Constantin Bala Zamfirescu, Cristian Ciurea
Friday, August 15, 15:30--16:20
Room: 5085
Zoom Meeting ID: 952 3957 1491
Password: 369280
Volunteer: Jinyuan Feng

Advanced Algorithm Combinations for Safe Human-Robot Collaboration: A Review and Research Proposal (ID: 19)

Gaston Lefranc, Gabriel Gatica-Casanova, Edison Vasquez and Mario Peña-Cabrera

AI-Enhanced Supercomputing for Next-Generation Astronomical Data Processing in Latin America: A Case Study of the ALMA Observatory (ID: 20)

Gaston Lefranc, Gabriel Gatica-Casanova, Edison Vasquez and Mario Peña-Cabrera

Collaboration in the AI Era–Creative AI and Virtual Exhibitions (ID: 32)

Cristian Ciurea and Florin Gheorghe Filip

Pedestrian Injury Severity in Traffic Accidents: A Data Science and Artificial Intelligence-Driven Approach for Fatality Prevention (ID: 120)

Felisa Cordova, Thierry De Saint Pierre and Cecilia Montt

Decision Model for the Prioritization of Public Investment Projects in a Health Care Service (ID: 129)

Luis Quezada, Astrid Oddershede, Diego Pozas, Pedro Palominos, Gonzalo Alvarez and Ronald Mac Ginty

SS 03: The 12th Intelligent Decision Making and Extenics based Application
Chairs: Tao Wang, Long Tang, Chang Gao, Yiqing Yan
Friday, August 15, 15:30--17:00
Room: 5073
Zoom Meeting ID: 995 0444 7712
Password: 613686
Volunteer: Yiming Chen

A Study on the Construction of Extenics Database Based on LLM+Neo4j - An Example of Plant Landing Designs (ID: 39)

Jiajie Zhou and Tao Wang

An Extenics-Driven Intelligent Method for Enhancing Problem-Solving Abilities via Human-Computer Interaction (ID: 65)

Guopei Lin, Xingsen Li, Erxiang Dou and Xinyang Li

Resolving Spatial-Behavioral Contradictions in Smart Parks via Extenics: A Modular Framework for Haidian Park (ID: 95)

Qianqian Zhang and Tao Wang

Research on Dynamic Weight Allocation and Extension Optimization in Intelligent Evaluation (ID: 106)

Junyu Chen, Xingsen Li and Erxiang Dou

Anomaly detection method based on extension set (ID: 109)

Zhiwei Wu

The Application of Basic-Element Learning Method in Industrial Engineering Courses (ID: 119)

Huiqiao Xiang, Xingsen Li and Erxiang Dou

Basic-Element Pedagogy: Applying Extenics' Basic-Element Theory to BOPPPS Instructional Design (ID: 144)

Chang Gao, Jiazi Zeng, Xingsen Li and Lingling Zhang

An Extensible Model for Integrating Multiple Methods to Enhance Dust Removal Efficiency in Coal Mines (ID: 166)

Xiaobin Xi, Zhanhui Zhang and Jiazi Zeng

An extension transformation algorithm for improving dust removal efficiency in coal mines (ID: 167)

Xiaobin Xi, Hanqi Yue, Jiahao Li and Junwen Sun

SS 08: Decentralized Science and Decentralized Autonomous Organizations: Challenges and Future Trends
Chairs: Seyed Mojtaba Hosseini Bamakan, Ahad ZareRavasan, Qiang Qu
Friday, August 15, 17:20--17:30
Room: 5085
Zoom Meeting ID: 952 3957 1491
Password: 369280
Volunteer: Jinyuan Feng

Research on Dynamic Differential Game for Data Trading Based on Blockchain Technology (ID: 191)

Hongmei Qi, Xuedi Li, Xuefeng Zhang and Zhenzhong Huang

WS 02: Asset pricing and machine learning
Chairs: Mike Dong
Friday, August 15, 17:20--17:30
Room: 5071
Zoom Meeting ID: 935 1638 1863
Password: 826174
Volunteer: Dong Li

TSGT: Electricity price prediction model based on Time-Space-GCN-Transformer (ID: 59)

Feng Wang and Guangping Zhu

WS 05: The 4th Workshop on Quantitative Finance and Risk Management
Chairs: Wei Chen, Zhensong Chen, Yinhong Yao, Yanxin Liu, Xueyong Liu
Friday, August 15, 16:20--17:10
Room: 5085
Zoom Meeting ID: 952 3957 1491
Password: 369280
Volunteer: Jinyuan Feng

Post-epidemic China: Cross-industry Systemic Risk Analysis (ID: 36)

Wenting Chen and Chunbing Bao

A Study of Extreme Risk Spillovers in Digital Economy Concept Stocks (ID: 154)

Xiaoxue Ji, Rou Wen, Lingjuan Xia and Xueyong Liu

Enhancing Multi-Factor Stock Selection with Transformer Networks: A Comparative Analysis Against Traditional Machine Learning Models (ID: 155)

Buyao Song, Siqi Lu and Guowen Li

Investing in the Age of Generative AI: A GPT-based Sentiment Analysis Approach (ID: 169)

Xianrong Zheng

Who Can Counter COVID-19 in Stock Markets? Markowitz or Diversification (ID: 246)

Yue Qi, Yu Zhang and Tongyang Liu

WS 08: The 9th Workshop on Scientific Data Analysis and Decision Making
Chairs: Dengsheng Wu, Jianping Li
Friday, August 15, 15:30--17:20
Room: 5071
Zoom Meeting ID: 935 1638 1863
Password: 826174
Volunteer: Dong Li

Optimization of mining equipment condition monitoring using IoT with machine learning (ID: 3)

Cid Clay Quirino and Eder Costa Cassettari

The multi-stage guidance of public opinion in social media (ID: 7)

Jia Chen, Wenxiu Ma, Xingtong Chen and Xiaoli Tian

Research on Emergency Materials Storage Decision of Agreement Enterprises Considering Corporate Social Responsibility (ID: 38)

Hengkun Wang, Yongbin Gao, Junhao Ma, Mengdi Cao, Lin Wang and Su Gao

Exploring the Dissemination Processes and Generative Mechanisms Across Diverse Categories of Topics (ID: 71)

Yi Du and Chunbing Bao

Research on supply chain emission reduction with blockchain technology under production uncertainty (ID: 74)

Yihua Ma, Haoran Han and Meng Zhang

Development Trends of Scientific Journals in Non-English-Speaking Countries: A Comparative Analysis of China, Japan, South Korea, and Russia (ID: 101)

Qiudan Su and Dengsheng Wu

Research on the influence of industry-university-research on innovation in biomedical enterprises (ID: 105)

Weihong Li, Wenjing Zhang, Hongfang Song and Yizhou Qin

Artificial Intelligence and the Innovation Quality of "Specialized, Refined, Unique, and Innovative" Small- and Medium-Sized Enterprises (ID: 110)

Li Luo, Yuhui Dong and Hongfang Song

Assessment of steel enterprise resilience in bankruptcy mergers and acquisitions (ID: 114)

Xin Lv, Hongfang Song, Rongtang Yang and Wen Tian

Technological innovation and green low-carbon: Competitive analysis of Chinese steel enterprises (ID: 115)

Rongtang Yang, Qiulin Luan, Xin Lv and Hongfang Song

Research on the Configuration Path of Regional Innovation: Dynamic QCA Analysis Based on Chinese County-Level Panel Data (ID: 189)

Hongmei Qi, Zhenzhong Huang, Lulu Zhang, Xuedi Li and Lu Gao

WS 09: The 12th Workshop on Optimization-based Data Mining
Chairs: Yingjie Tian, Zhiquan Qi, Saiji Fu, Yong Shi
Friday, August 15, 17:00--17:30
Room: 5073
Zoom Meeting ID: 995 0444 7712
Password: 613686
Volunteer: Yiming Chen

Open-Vocabulary Object Detection Survey (ID: 8)

Xiaotong Yu, Haijing Sun and Yang Wang

Self-Attention Driven Personalized Multi-View Adaptive Teacher-Student Network (ID: 9)

Saiji Fu, Yingjie Tian, Yi Yue and Shiding Sun

Multi-view Machine Learning for Predicting Future Audit Opinions: Integrating Financial Indicators and Textual Disclosures (ID: 152)

Yushan Zhang and Saiji Fu

Saturday, August 16

Keynote/Plenary Speeches

Keynote Speech IV
Saturday, August 16, 9:30--10:10
Room: 1095
Zoom Meeting ID: 912 7690 1786
Password: 889807

Mult-objective Stochastic Optimization for Portfolio Selection

Speaker: Fouad Ben Abdelaziz

Distinguished Professor & Chair of the MSc of Artificial Intelligence for Business Program, NEOMA Business School

Host: Xiaodong Lin

Abstract: We present the primary models for multi-objective optimization, examining the stochastic nature of certain parameters. Following this, we introduce key concepts and models for Multi-objective Stochastic Optimization. We define the concept of an efficient solution in a stochastic context. Additionally, we discuss the portfolio selection problem with stochastic parameters and explore strategies to address these challenges.

Speaker Biography: Dr. Ben Abdelaziz is currently a Distinguished Professor at NEOMA Business School, France and the chair of the MSc of Artificial Intelligence for Business Program at the same institution. Previously, he served as a Senior Fulbright scholar at the Rutgers Center for Operations Research, Rutgers University, NJ. He earned his PhD in Operations and Decision Systems from Laval University, Canada, and holds an MBA and a BSc in Mathematics from the University of Tunis. Throughout his career, Dr. Ben Abdelaziz has held academic positions at prestigious institutions including the University of Dubai, UAE, the American University of Beirut, Lebanon, and the University of Tunis, Tunisia. He has also been a visiting scholar at Pace University, NY, USA; Coimbra University, Portugal; University of Milan, Italy; CFVG, Vietnam; Laurentian University, Canada; and Nizwa University, Oman, among others. Dr. Ben Abdelaziz is recognized as a leading researcher in Multi-objective Stochastic Optimization and Multi-attribute Portfolio Selection. His research contributions have been published in esteemed journals such as EJOR, JORS, IJAR, FSS, ANOR, and CAIE. He has also served as a Guest Editor for the European Journal of Operations Research and Fuzzy Sets and Systems. Beyond his research, Dr. Ben Abdelaziz has organized and chaired numerous international conferences, including the Multi-objective and Goal Programming Conference (MOPGP). He has held leadership roles as Director of the LARODEC Lab at the University of Tunis, Director of the Doctoral School at the Higher Institute of Management at the University of Tunis, Director of the MSc program in Supply Chains at NEOMA, France, and Director of the Doctoral School at NEOMA, France. He was also the chair of the inaugural conference of AFROS (African Federation of Operational Research Societies) and chaired the MCDM24 conference.

Keynote Speech V
Saturday, August 16, 10:10--10:50
Room: 1095
Zoom Meeting ID: 912 7690 1786
Password: 889807

"Third Data" and its Spiral Pattern of Knowledge Creation

Speaker: Yanzhong Dang

Distinguished Professor & Director of Institute of Systems Engineering, Dalian University of Technology

Host: Lingling Zhang

Abstract: In the current big data boom, there is a very important and extremely valuable data that has been left out in the cold, which is the third data. The third data is the special data generated in the process of problem processing, which contains extremely dense problem-solving knowledge, and is an indispensable knowledge resource for big data, knowledge management research and solving practical problems. A "problem" is a perceived contradiction that people are trying to eliminate, such as product defects, equipment failures, abnormal production line downtime, innovative design of new products, team building, etc. The main contents of this report include: 1. Definition, characteristics and essential differences between the third data and the first data and the second data; 2. The source and generation process of the third data; 3. Illustrate the value of the third data with real cases; 4. Compared with the first data and the second data, the third data is the data with the highest knowledge

density and the most complete knowledge type; 5. It reveals the knowledge creation model based on the third data which conforms to the objective reality and is expressed as the " Pentagonal model". In reality, there is a wide range of third data in manufacturing production and management, and enterprises have a full understanding of its potential value of reducing costs, improving efficiency and enhancing creativity. However, due to the lack of complete theories, methods and tools related to the third data, the third data is not fully used, resulting in a great waste of knowledge resources. "Problems" exist widely in all aspects of human society, so the third data theory is not only applicable to the manufacturing industry, but also to the service industry, even in the field of social economy has universal applicability.

Speaker Biography: Yanzhong Dang, Professor of Dalian University of Technology, was the chairman of the first "Chinese Society of Systems Engineering Data Science and Knowledge Systems Engineering Committee", and was the vice chairman of the first and second "Chinese Society of Management Science and Engineering". He has been engaged in the theoretical and application research of systems engineering, knowledge management, intelligent decision support system (IDSS), informatization and management reform, and agricultural systems engineering for a long time, and has developed 12 IDSS. IDSS developed for FAW cars in the manufacturing field has been running continuously for more than ten years, and has achieved good economic and management benefits. The "intelligent, integrated and interactive county-level agricultural planning decision support system" developed in 1984 won the third prize of Scientific and Technological Progress of Liaoning Province in 1991. Since 2000, he has conducted more than 20 years of accompanying systematic research on the informatization and management reform of the National Natural Science Foundation Committee (NSFC), and 20 research reports have been adopted by NSFC. In the 1980s, pioneering theoretical and application achievements were made in the field of agricultural systems engineering, which was widely promoted in the field of agricultural systems engineering throughout the country. The theory of "product life cycle-oriented knowledge coordination management", the concept and theoretical framework of "third data", and the spiral model of knowledge creation based on "third data", the pentagonal model, are put forward. He published the knowledge management monograph Theory and Method of Knowledge Coordination Management for Product Life Cycle and the system science monograph Theory and Method of System Analysis, etc., and obtained a number of invention patents and software Copyrights. He has won three provincial and ministerial science and technology progress awards and other science and technology awards, and won the "System Science and System Engineering Science Contribution Award of the Chinese Society of Systems Engineering" in 2022.

Plenary Speech I
Friday, August 16, 11:00--11:25
Room: 1095
Zoom Meeting ID: 912 7690 1786
Password: 889807

Pointer-Based Item-to-Item Collaborative Filtering Recommendation System Using a Machine Learning Model

Speaker: Celestine Iwendi

Professor at Centre of Intelligence of Things, University of Greater Manchester

Host: Yong Shi

Abstract: In today's data-driven economy, recommendation systems are essential for optimizing user experience and engagement across platforms. This presentation introduces an enhanced item-to-item collaborative filtering approach leveraging a pointer-based machine learning model, combined with deep learning and contextual AI. The architecture incorporates neural collaborative filtering and graph-based learning to capture complex user-item interactions and semantic patterns. Temporal and behavioral context signals are integrated to deliver adaptive, real-time recommendations. The use of explainable AI (XAI) ensures transparency and builds user trust in the system. Experimental evaluation shows the proposed model significantly outperforms traditional collaborative filtering in accuracy and user satisfaction, offering a scalable and intelligent solution for contemporary recommendation challenges.

Speaker Biography: Professor Celestine Iwendi is an IEEE Brand Ambassador, Professor of Artificial Intelligence, and the Head of the Centre of Intelligence of Things (CIoTh) at the University of Greater Manchester, Bolton. With a PhD in Electronics Engineering, he has over 25 years of technical expertise in wireless sensor networks, AI, ML, and IoT. As a Senior Member of IEEE and Chartered Engineer, Celestine has developed testing procedures, provided technical support, and ensured safety compliance for electronic systems. He has received prestigious recognition from the Royal Academy of Engineering under the Exceptional Talent Scheme for his contributions to AI and medical applications and has been featured in Elsevier's World's Top 2% Influential Scientists list for four consecutive years. His research spans 13 of the 17 UN SDGs, with 92.6% of his work internationally co-authored, and 60.7% of his publications ranking among the top 25% most-cited globally. He is also a Visiting Professor at five universities worldwide. Celestine is the Chair of the Election Committee of IEEE Computer Society Worldwide 2024. He is the IEEE University of Greater Manchester Student Branch Counselor and a former Board Member of IEEE Sweden Section, a Fellow of The Higher Education Academy in the United Kingdom, and a Fellow of the Institute of Management Consultants. Additionally, Celestine is an ambassador in the prestigious Manchester Conference Ambassador Programme and IEEE ComSoc Distinguished Lecturer. He was named a 2024 Highly Ranked Scholar – Prior Five Years in All Fields of Scholarly Endeavour by ScholarGPS, placing him among the top 0.05% of 30 million scholars worldwide.

Plenary Speech II
Saturday, August 16, 11:25--11:50
Room: 1095
Zoom Meeting ID: 912 7690 1786
Password: 889807

Stock Market Forecasting Comparison Using ANN and SVM

Speaker: Akshit Shahbuddinbhai Kurani

GRUBBRR (Leading global commerce automation company in Boca Raton, Florida, USA)

Host: Wikil Kwak

Abstract: In our current presentation, we are trying to walk you through a comparative study of 2 powerful ML models - SVM and ANN in stock market analysis, which are widely recognized and used. We looked into what they are good at, where they fall short, and how both of them work. ANN can handle raw, messy data and find patterns in it, similar to how our brain functions, while SVM is pretty good at drawing clear boundaries and doesn't get confused by too many patterns or noise in the data. We have also explored an approach on how combining these with different models like Random Forest Search and GARCH can lead to a better outcome with more accuracy. Our goal wasn't to just work on different numbers but to come up to a conclusion on how these models behave when it comes to the real-world financial market with limited data, last-minute changes, and unpredictable events. This would be an ideal one for anyone close to data, finance, ML, or just anyone curious about smart ways for forecasting the stock market.

Speaker Biography: Akshit Shahbuddinbhai Kurani is a computer engineer and product management specialist with contributions in artificial intelligence, financial forecasting, and scalable retail technologies. He received his B.Tech in Computer Engineering from Indus University in 2021 and his M.S. in Computer Engineering from New York University in 2022, where he was awarded a merit-based scholarship. He is the co-author of the highly cited paper “A Comprehensive Comparative Study of Artificial Neural Network (ANN) and Support Vector Machines (SVM) on Stock Forecasting”, published in the Annals of Data Science (Springer, 2023), which has received over 500 citations. His research explores the intersection of AI and real-world decision systems, with additional work on deepfake detection and generative AI applications in product lifecycle management. Professionally, he has served at the Indian Space Research Organization and currently works as Technical Product Manager at GRUBBRR, Florida, where he leads self-ordering kiosk innovations, POS integrations, and multi-brand digital rollouts for clients across North America.

Invited Panels & Sessions

Invited Session: Statistical Learning and Optimization
Saturday, August 16, 13:00--14:20
Room: 5071
Zoom Meeting ID: 935 1638 1863
Password: 826174

Optimistic Online Learning and Dynamic Pricing

Zhan Pang, Purdue University

Leveraging Network Connectivity to Adaptively Learn Consumer Preferences

Zhaonan Qu, Columbia University

Tails of Two Sides: On Index Policies for Multi-armed Bandit

Jian Yang, Rutgers University

Invited Session: Machine Learning in Finance
Saturday, August 16, 13:00--14:20
Room: 5073
Zoom Meeting ID: 995 0444 7712
Password: 613686

Implied Impermanent Loss: A Cross-Sectional Analysis of Decentralized Liquidity Pools

Thomas Li, Courant Institute, NYU

Neural Instrumented Factorization: Learning Dynamic Asset Pricing Factors and Loadings through Characteristics Control

Ajim Uddin, NJIT

The Connectedness Between Cryptocurrency and Segmented Technology Sectors in Different Regulatory Regimes: Causality and Machine Learning Approaches

Jinghua Wang, NJIT

Forecasting the Equity Risk Premium: A Selective State Space Model Approach

Longzheng Chen, NJIT

Invited Session: LLM, Agent and Applications
Saturday, August 16, 13:00--14:20
Room: 5085
Zoom Meeting ID: 952 3957 1491
Password: 369280

How Well Do LLMs Plan Strategically and Reason Socially

Atlas Wang, UT Austin

AI Oversight at Scale: Navigating the Challenges of Evaluating LLMs and Agents

Peng Wang, Patronus AI

Copyright Under Fire: The Ethical and Legal Perils of LLM Memorization

Denghui Zhang, Stevens Institute of Technology

Parallel Sessions & Workshops

Main Track (Part II)
Chairs: Yong Shi, Pei Quan, Yi Qu
Saturday, August 16, 14:30--17:30
Room: 2071
Zoom Meeting ID: 973 0657 9326
Password: 213956
Volunteer: Muyang Li

Electric Logistics Vehicle Charging Stations Location-routing Problem Considering Range Anxiety (ID: 51)

Ying Dong, Guangzheng Sun, Kangkang Zou, Xiao Yu, Qing Li, Jian Pan and Shang Liu

Application of the Gaussian AHP Method for Airspace Performance Assessment (ID: 77)

Luís Gustavo Domingues Pereira, Thiago Gentil Ramires, Marcos Santos and Bruno Pereira Diniz

Utilization of the hybrid PSI-CoCoSo method for product assortment management in a microenterprise of handmade cookies (ID: 79)

Yasmin Nunes Alves, Anna Caroline de Azevêdo Barcelos Moratelli, Marcos Santos, Carlos Francisco Simões Gomes and Bruno Pereira Diniz

Utilization of the MPSI-MARA method for cybersecurity system selection (ID: 80)

Yasmin Nunes Alves, Anna Caroline de Azevêdo Barcelos Moratelli, Thiago Fernandes Lima, Marcos Santos, Carlos Francisco Simões Gomes and Bruno Pereira Diniz

Selection of Automatic Metering Pumps for Water Treatment in a Plant in the Baixada Fluminense of Rio de Janeiro Using the PSI-WASPAS Hybrid Method (ID: 81)

Anna Caroline de Azevêdo Barcelos Moratelli, Yasmin Nunes Alves, Jeane Jeronimo de Amorim Silva, Marcos Santos, Carlos Franciscosimões Gomes and Bruno Pereira Diniz

Selection of Unmanned Aerial Vehicles to Assist in Monitoring in the Penitentiary System of the State of Rio de Janeiro: An Analysis Based on The Hybrid MPSI-MARA Method (ID: 83)

Anna Caroline de Azevêdo Barcelos Moratelli, Yasmin Nunes Alves, Luana de Azevedo Oliveira, Marcos Santos, Carlos Francisco Simões Gomes and Bruno Pereira Diniz

Application of Mixed-Integer Linear Programming for Optimal Allocation of Quality Analysts in Hospital Safety Programs Using Python (ID: 84)

Michele Ferreira Moreira, Fabio Henrique Martins Queiroz, Antonio Sergio Silva, Miguel Ângelo Lellis Moreira and Marcos Santos

Hiring newly graduated nurses in the post-pandemic context: integrated multicriteria assessment using the AHP and TOPSIS methods (ID: 85)

Vanessa Castilho Volcov, Fabio Henrique Martins Queiroz, Antonio Sergio Silva, Miguel Ângelo Lellis Moreira, Luiz Paulo Fávero and Marcos Santos

Bibliometric analysis of color marketing based on Citespace (ID: 88)

Shihyu Fu and Shan Li

Elaboration of a Performance Indicator using the AHP-Gaussian Method for Ordering Auto Workshops in an Insurance Company in Rio de Janeiro (ID: 111)

Alex Macedo Teles Silva, Douglas Ferreira Maia, Luana de Azevedo Oliveira, José Antônio de Oliveira Alves, Michele Ferreira Moreira, Emerson Hissao Kojima, Marcos Paulo Rosa Lima Silva, Marcos Santos and Bruno Pereira Diniz

Evidential Estimation of Dependences Based on Data (ID: 122)

Alexander Lepskiy

Systems Thinking as a Support Tool in Teaching Electronics: An Approach through a Systematic Literature Review and Proposal of a Framework for Integrating Maker Culture and IoT in Technical Education (ID: 123)

Enderson Luiz Pereira Júnior, Cátia Elisabete Lopes Camargo, José Antônio de Oliveira Alves, Douglas Ferreira Maia, Carlos Francisco Simões Gomes, Marcos Santos and Bruno Pereira Diniz

Recruitment for Initial Military Service in a Military Organization: an approach through the MPSI-MARA Method (ID: 124)

Enderson Luiz Pereira Júnior, Cátia Elisabete Lopes Camargo, José Antônio de Oliveira Alves, Douglas Ferreira Maia, Carlos Francisco Simões Gomes, Marcos Santos and Bruno Pereira Diniz

Generalized Centrality Measures for Multiplex Networks: Combining Node Attributes and Group Dynamics (ID: 127)

Fuad Aleskerov and Anna Semenova

Use of Linear Programming to Minimize Operational Costs through the Internalization of Otoneurological Examination and Labyrinthine Rehabilitation in a Health Insurance C (ID: 130)

Silmara Scontre, Fábio Henrique Martins Queiroz, Michele Ferreira Moreira, Antonio Sergio Silva, Miguel Ângelo Lellis Moreira, Marcos Santos and Bruno Pereira Diniz

Route optimization in home physiotherapy: a traveling salesman problem-based framework for health care logistics efficiency technologies for clinical rehabilitation (ID: 133)

Fabio Henrique Martins Queiroz, Michele Ferreira Moreira, Antonio Sergio da Silva, Miguel Ângelo Lellis Moreira and Marcos dos Santos

DRVoting: Efficient Ensemble Solution in Diabetic Retinopathy Diagnosis (ID: 134)

Arifur Rahman, Shahriar Parvej and Sakib Zaman

Enhancing Cyber-Physical-Social Systems through Decentralized Governance and Blockchain-based Digital Twins (ID: 148)

Seyed Mojtaba Hosseini Bamakan, Farnaz Dehghan, Saeed Banaeian Far, Ahad Zareravasan and Qiang Qu

SS 07: AI Frontiers in Business - Consumer and Organizational Perspectives
Chairs: Nitin Upadhyay
Saturday, August 16, 16:10--16:50
Room: 5073
Zoom Meeting ID: 995 0444 7712
Password: 613686
Volunteer: Yiming Chen

Decoding Gen Z Consumers Perception of Avatar Marketing (ID: 92)

Meherika Upadhyay

CROWN Multicriteria Analysis for Decision Support in the Selection of Drones for Applications at the Center for Analysis of Naval Systems (CASNAV) (ID: 126)

Thaís Evelin Santos de Oliveira, Marcos dos Santos and Gilson Brito Alves Lima

An Analysis of the SAPEVO-PC-WASPAS Hybrid Multicriteria Method in the Selection of Virtual Reality Glasses for Applications at the Center for Naval Systems Analysis (CASNAV) (ID: 128)

Thaís Evelin Santos de Oliveira, Marcos dos Santos and Gilson Brito Alves Lima

An Economic perspective of Service Robot Adoption in the Tourism Sector (ID: 131)

Nitin Upadhyay and Shalini Upadhyay

WS 03: The 5th Workshop on Risk Scenario-based Decision Making: Methods and Applications
Chairs: Weilan Suo, Xiaolei Sun, Gang Li, Mingxi Liu
Saturday, August 16, 14:30--16:40
Room: 5071
Zoom Meeting ID: 935 1638 1863
Password: 826174
Volunteer: Dong Li

Assessing the efficiency of innovation resource distribution in Chinese high-tech industries based on the limited rational behavior of decision makers (ID: 25)

Huihui Liu, Weilan Suo and Ming Li

Multidimensional Deconstruction of Policy Tools: A Quantitative Assessment Framework Based on Frequency, Effectiveness, and Positional (ID: 35)

Yingjie Sheng, Xiaolei Sun, Hubin Ma and Longfei Li

Research on Risk Factors of Construction Project Delays Based on System Dynamics (ID: 55)

Lili Zhao, Xiaojuan Qin and Chao Chen

Advertising Strategies for Online Retailers Based on Bayesian Persuasion (ID: 73)

Fan Xiaoman and Bao Chunbing

Interdependency Modeling of Compound Risks: A Bayesian Network Framework with Global Disaster Data (ID: 75)

Lin Wang, Yukun Luo and Weilan Suo

Strategic Selection of SOC Architectures in Financial SMEs: Applying CRITIC and WASPAS to Support Cybersecurity Decisions (ID: 86)

Erik Etsushi Miyashita and Luis Hernan Contreras Pinochet

Rumor propagation in online–offline networks with different risk appetites and different linkage mechanisms (ID: 87)

Ning Ma, Mingzhu Wang, Qianqian Li and Yijun Liu

Resilience governance of critical infrastructures under extreme weather: Insights from case studies of Zhengzhou Rainstorm and Texas Cold Wave (ID: 97)

Bin Li, Ou Lei and Weilan Suo

Synergistic Efficiency Measurement of China Urban Railway Freight Hub and Logistics Base under Dual-Network Integration (ID: 100)

Zexuan Xiang, Jinling Ma, Lijuan Li, Jiazhen Chen and Xinyu Ji

Analysis of Public Procurement Development Trends: A CiteSpace-Based Knowledge Mapping Study (ID: 102)

Yiman Jia, Zhanli Wang, Jun Zhang and Zexin Wang

Evaluation of Management Level of Procurement Service-oriented Supply Chain in Oil and Gas Enterprises Based on Analytic Hierarchy Process (ID: 108)

Xin Wang, Wei Wei, Shasha Xie, Jing Pu, Xiang Song and Lan Wang

Strategic Choice of Live Streaming Channel and Consumer Shipping Subsidies under Return Risk (ID: 137)

Chen Pingping, Feng Xinyu, Xu Shuaijie and Feng Qianqian

Ripple Effects of Regulatory Shocks in China's A-Share Market: A Quantitative Analysis of Risk Contagion (ID: 157)

Yuyao Feng, Zhengyang Ding, Zhengdong Li and Guowen Li

WS 04: The 3rd Workshop on Data Essentialization and Financial Innovation
Chairs: Jianping Li, Rongda Chen, Jin Li, Jun Hao
Saturday, August 16, 14:30--16:10
Room: 5073
Zoom Meeting ID: 995 0444 7712
Password: 613686
Volunteer: Yiming Chen

Bond default prediction model considering the risk information of bond prospectuses (ID: 18)

Mingye Wei, Yuqi Deng and Lu Wei

The Impact of Executives' Emotions in Earnings Calls on CDS Spreads (ID: 53)

Yuexian Wu, Jiabei Wang and Lu Wei

A comprehensive bibliometric analysis of data security between 2000 and 2024 (ID: 70)

Wang Yezhu, Li Chen, Tang Yuwei, Hao Jun and Fan Yafang

A Strategic Analysis of Cross-Border Data Governance Involving Third-Party Regulatory Agencies (ID: 136)

Huijie Li, Yuyan Liu, Zhe Bai and Jin Li

Mapping the research landscape of Large Language Models from 2018 to 2024: A biblimetric analysis (ID: 145)

Wang Yezhu, Fan Yafang, Guo Lu and Xie Yundong

Identification of Corporate Policy Responses and Analysis of Their Market Consequences: A Natural Language Processing and Large Language Model Approach (ID: 156)

Guowen Li, Lang Peng and Ke Li

Dynamic Financial Stress Index Modeling with IGSA-MLPNN Fusion (ID: 162)

Mengliang Liu, Shunan Wen, Zichun Wang and Qirui Zhang

A LightGBM-Based Pricing Method for Healthcare Data (ID: 164)

Shufan Shang, Jianping Li and Jun Hao

The Incorporation of Data Assets into Financial Statements: Framework, Pathway and Practical Exploration (ID: 165)

Mengdi Mu and Jun Hao

Analyzing the Implementation Challenges of AI-Powered Rural Healthcare from the Perspective of Village Doctors (ID: 172)

Ruogu He and Zhengxin Li

WS 06: The 3rd Workshop on Advanced Technology in Operational Research and Optimization
Chairs: Ruizhi Zhou, Pei Quan, Yang Xiao, Minglong Lei, Lingfeng Niu
Saturday, August 16, 14:30--16:30
Room: 5085
Zoom Meeting ID: 952 3957 1491
Password: 369280
Volunteer: Jinyuan Feng

HAG-MV: Reconstruction of High-Fidelity Adaptive Garments from Monocular Video (ID: 34)

Xiaoyu Liu, Qing Zhu, Shaoyue Song, Wanting Zhu and Tianxing Li

SE2Image: Generating Images from Classical Chinese Poetry by Combining Scene and Emotion Descriptions (ID: 60)

Shuo Wang, Qing Zhu, Yang Xiao, Shaoyue Song and Wanting Zhu

Cross-modal Ambiguity Learning with Behavior Interaction For Rumor Detection (ID: 63)

Zhuo Fan, Yitian Chen, Xiaoyue Hu, Yang Xiao and Qing Zhu

The Impact of Carbon Emissions Trading Scheme on Green Innovation: The Moderating Role of Green Finance (ID: 72)

Chunli Du, Meixi Miao, Zhongyu Li and Yongjie Tan

Do State-owned Enterprise Holdings Affect Innovation? (ID: 90)

Yaxin Kang, Fangrui Li and Pei Quan

Connectedness of Chinese financial institutions in news extracted by LLM (ID: 91)

Xueheng Wang, Jingrui Cai, Yvbo Yin, Pei Quan and Jingyu Li

Portfolio Optimization Based on Signed Graph Convolutional Network (ID: 112)

Jinhao Liu, Pei Quan and Jingyu Li

Intelligent phase-locked amplifier: AI-driven weak signal detection (ID: 113)

Guanhua An, Chenhao Sun and Bingyu Duan

A Study on Accident Chain Identification for Oil and Gas Pipelines Based on Graph Neural Network Algorithms (ID: 153)

Chen Lijie, Ding Yuanhua, Gu Jiandong and Dong Xuefan

A Review of Research on Intelligent Modeling Approaches for Rural Wastewater Quality Prediction (ID: 163)

Jiaqi Jing and Pei Quan

Learning to Optimize based on Unrolled ABIP (ID: 196)

Yujie Peng, Ruoyu Diao and Liang Chen

Latent Diffusion Transformer for 3D Molecular Property Prediction (ID: 248)

Qingzhao He, Gang Wang, Guoliang Hao and Minglong Lei

WS 07: The 15th International Workshop on Computational Methods in Energy Economics
Chairs: Lean Yu, Kaijian He
Saturday, August 16, 16:40--17:30
Room: 5085
Zoom Meeting ID: 952 3957 1491
Password: 369280
Volunteer: Jinyuan Feng

INE Crude Oil Futures Volatility Prediction Based on Deep Learning HAR-RV-CJ-GRU Hybrid Model (ID: 26)

Jingcheng Pan, Yufei Zhou, Chuan Yin and Mengting Chen

One station for hydrogen production: which subsidy policy is more effective? (ID: 37)

Qinpeng Wang, Zhaoyang Tian and Meiling Gao

Crude oil risk forecasting using time series foundation model (ID: 96)

Kaijian He, Lean Yu and Yingchao Zou

Forecasting crude oil price using sentiment score and LLM (ID: 98)

Kaijian He, Yishuai Li, Zihuan Peng and Yingchao Zou

Evaluation of global crude oil shipping network based on complex network theories (ID: 99)

Wenjun Chai, Kaniz Fatema, Yanhui Chen and Jackson Jinhong Mi

WS 10: Business Intelligence
Chairs: Chonghui Guo, Kun Guo, Yi Qu, Yong Shi
Saturday, August 16, 16:40--17:30
Room: 5071
Zoom Meeting ID: 935 1638 1863
Password: 826174
Volunteer: Dong Li

Impact of Medical Insurance Reform on Drug Sales: Evidence from China's Pharmaceutical Industry (ID: 168)

Yongsheng Zhou, Zihe Gong and Xin Tian

Elon Musk and the 2024 U.S. Presidential Election: Assessing Media Influence, Campaign Dynamics, and Public Opinion (ID: 185)

Lijun Gao, Pengwei Zhu, Dongsheng Bei and Kun Guo

Biodiversity, ESG and Corporate Performance (ID: 187)

Yong Shi, Dong Li and Kun Guo

Enhancing Green GDP Measurement in China Through Business Intelligence-Driven Entropy Weight Analysis and Predictive Analytics (ID: 188)

Mingxuan Ma, Jingrui Chen and Yunzheng Xu

The impact of energy poverty on physical health, mental health and life satisfaction —— Evidence from the Chinese households (ID: 197)

Yiming Chen, Wenbo Zhao and Kun Guo

Sunday, August 17

Parallel Sessions & Workshops

Main Track (Part III)
Chairs: Yong Shi, Pei Quan, Yi Qu
Sunday, August 17, 09:30--12:00
Room: 2071
Zoom Meeting ID: 973 0657 9326
Password: 213956
Volunteer: Muyang Li

Comparative Analysis of Domestic Open-Source Large language Models (ID: 146)

Haifeng Li, Haowen Si and Mo Hai

A Study on the Causes and Regulation of Data Market Failure (ID: 181)

Xiannian Deng and Yong Shi

Can green finance policy boost regional energy security? Evidence from China (ID: 182)

Na Li and Binyu Cai

A Novel Algorithm for Bearing Fault Diagnosis Based on ERW-GCN (ID: 183)

Feng Wang, Guangping Zhu, Yuzhe Zou and Jiading Jiang

GKTP: A Personalized Knowledge Tracing and Predicting Method based on GNN (ID: 184)

Feng Wang, Guangping Zhu and Xiaozhi Zhu

Feature extractor comparison for distribution matching framework in dataset distillation (ID: 186)

Muyang Li, Yi Qu, Yunlong Mi and Yong Shi

Bibliometric studies of fine-tuning: A review and application (ID: 194)

Jinyuan Feng and Yong Shi

A Comprehensive Study on the Frontier Developments of Digital Economy (ID: 195)

Tianchi Zhao and Yong Shi

Artificial intelligence in the petroleum industry: a patent landscape review (ID: 199)

Xiaoli Wang and Weijian Song

A Method for Improving the Accuracy of Regression Models Based on Ordinal-Invariant Pattern Clustering (ID: 200)

Alexey Myachin

The role of age as a moderator of the perception of net benefits in academic information systems. (ID: 201)

Ari Mariano, Simone Borges Simão Monteiro, Ana Cristina Fernandes Lima, Everaldo Junior, Mariana Pereira, Ana Constantin and Maíra Rocha Santos

Applying Mathematical Decision-Making Models to Evaluate Factors Influencing in natura Pet Food Perception in the Federal District. (ID: 202)

Dante Martins Evangelistaa, Ari Mariano, Maíra Rocha Santos, Antonio Oblitas, Carla Pareja-Daza and Gerson Dajalma Ayala Rivamontan

Service Quality in the Auto Parts Industry: A Quantitative Analysis Using Structural Equations. (ID: 203)

Ari Mariano, Lucas Guimarães de Medeiros, Maíra Rocha Santos, Ana Constantin and Tarcilla Mariano Mello

Influence of Institutional Logic, Risk Perception and Privacy on the Adoption of E-Government in Brazil (ID: 204)

Maíra Rocha Santos, Ricardo Ajax Dias Kosloski, Marília Miranda Forte Gomes and Ari Mariano

Multiobjective Learning for Training Interpretable and Sparse Neural Networks (ID: 247)

Yongjie Feng, Peng Zhang and Byron J. Gao

How do policy incentives promote electric vehicle usage in e-commerce logistics? (ID: 255)

Kexin Hou, Zi Wang, Mincong Tang, Yinan Qi

SS 02: Innovation and Decision-making for Financial and Economic sustainability: Digital and ESG Transformation
Chairs: Fuad Aleskerov, Alexander Karminsky, Mikhail Stolbov
Sunday, August 17, 09:30-11:00
Room: 5071
Zoom Meeting ID: 935 1638 1863
Password: 826174
Volunteer: Dong Li

Revolution or evolution? A critical analysis of the divergence between MMT and mainstream economics (ID: 10)

Vladimir Belyaev

E-commerce sellers clustering to detect fraud risk on commercial dates (ID: 15)

Martina Campagna Alba, Miguel Ângelo Lellis Moreira, Luiz Paulo Fávero and Marcos Santos

Innovation management system as a factor in increasing the efficiency and sustainability of banks (ID: 17)

Andrey Egorov

The Impact of Sanctions on the Financial Performance and Creditworthiness of Russian Non-Financial Companies (ID: 22)

Polyna Dobrynina and Sergei Grishunin

Should more sustainable companies be more efficient? (ID: 33)

Konstantin Polyakov, Marina Polyakova and Alexey Polyakov

Systemic Risk Transmission between Countries: Evidence from High-Dimensional Vector Autoregressions (ID: 78)

Maria Shchepeleva

Assessing Investment Attractiveness through an ESG Lens: Comparative Perspectives from Europe and Russia (ID: 117)

Vladimir Samusev, Alexander Karminsky and Alexandra Egorova

Investment Attractiveness of Green Bonds: The Impact of Issuer Sector and Region (ID: 118)

Gleb Lobov, Alexandra Egorova and Alexander Karminsky

Research on the Development Path of the Digital Economy Empowered by Multiple Factors under the TOE Framework: An fsQCA Analysis of 280 Cities (ID: 158)

Lu Gao

SS 06: Digital Education and Innovation/E-learning
Chairs: Xiaodan Yu, Juanqiong Gou, Alanah Mitchell
Sunday, August 17, 10:30--11:00
Room: 5085
Zoom Meeting ID: 952 3957 1491
Password: 369280
Volunteer: Jinyuan Feng

Intelligent Agent-based Analysis of Collaborative Problem-Solving Skills in Sessions (ID: 94)

Yilin Zhao, Juanqiong Gou, Fangcong Zhang, Mengxin Zhang and Xiaodan Yu

Shared Mental Models as a Catalyst: Unraveling the Mechanisms of Effective Student led Human-AI Teamwork (ID: 151)

Yalin Su, Jingyang Li, Dan Li, Juanqiong Gou and Xiaodan Yu

Design principles of real time students' performance monitoring in simulation-based business education (ID: 170)

Reinhard Bernsteiner, Christian Ploder, Yalin Su, Juanqiong Gou and Xiaodan Yu

SS 09: Intelligent Decision Making and Consensus
Chairs: Francisco Javier Cabrerizo, Juan Antonio Morente-Molinera, Ignacio Javier Pérez, Enrique Herrera-Viedma
Sunday, August 17, 09:30--10:20
Room: 5085
Zoom Meeting ID: 952 3957 1491
Password: 369280
Volunteer: Jinyuan Feng

Ranking of Brazilian States for Investment in Education: An Analysis from the Perspective of the AHP-Gaussian Method (ID: 13)

Catarina Guimarães Felgas, Miguel Ângelo Lellis Moreira, Luiz Paulo Fávero and Marcos Santos

Collaborator Performance Assessment Using Multicriteria Modeling: Application of the SAPEVO-M Method in a Private Organization (ID: 16)

Renata Abrão, Fábio Henrique Martins Queiroz, Miguel Ângelo Lellis Moreira, Bruno Pereira Diniz, Antonio Sergio Silva, Luiz Paulo Fávero and Marcos Santos

Decision Making Support with PSI-SPOTIS Hybrid Method: Ordering Virtual Reality Technologies for Clinical Rehabilitation (ID: 40)

Fábio Henrique Martins Queiroz, Michele Ferreira Moreira, Silmara Scontre, Antonio Sergio Silva, Miguel Ângelo Lellis Moreira and Marcos Santos

Decision support system for multicriteria evaluation in complex scenarios: a SAPEVO-M-based approach for efficient drug selection and business management (ID: 41)

Luana Jaime Tocchio, Miguel Ângelo Lellis Moreira, Igor Pinheiro de Araujo Costa, Luiz Paulo Fávero and Marcos Santos

Profiling Healthy Neighborhoods Through Retail Food Spatial Analysis: The Case of Madrid (ID: 125)

Ramón Alberto Carrasco, Ziwei Shu, Christiam Méndez-Lazarte and Carlos M. Rodriguez

WS 11: The 12th Workshop on Intelligent Knowledge Management
Chairs: Lingling Zhang, Feng Wang, Chang Gao
Sunday, August 17, 10:20--11:00
Room: 5073
Zoom Meeting ID: 995 0444 7712
Password: 613686
Volunteer: Yiming Chen

WT-Fault-LLM: Knowledge Graph Enhanced Large Model for Wind-turbine Faults (ID: 66)

Feng Wang, Xizhen Zhang, Rui Tang and Jiading Jiang

Research on the Influencing Factors of Online Teaching Videos on User Learning Experience Based on Multimodal Data Fusion—A Case Study of Bilibili (ID: 103)

Feng Wang, Bing Yang, Lu Chen, Yujia Yu, Yujia Tian and Ke Zhang

Research on Knowledge Tracing Algorithm Based on Improved Graph Neural Network (ID: 107)

Yu Fang and Feng Wang

Intelligent Knowledge Management Driving Teaching Model Reconstruction-KAG-enabled BOPPPS Teaching Model Innovation and Practice (ID: 147)

Chang Gao, Xingsen Li, Lingling Zhang and Zhengjiang Liu

WS 12: The 10th workshop on Big Data and Management Science & Outlier Detection in Finance and Economics
Chairs: Aihua Li, Zhidong Liu, Xiaodong Lin, Fan Meng
Sunday, August 17, 09:30--10:20
Room: 5073
Zoom Meeting ID: 995 0444 7712
Password: 613686
Volunteer: Yiming Chen

Research on the Re-Employment Situation and Influencing Factors of Retirees: A Case Study of Beijing (ID: 93)

Aihua Li, Sifan Chen and Wanxin Liu

The Impact of China's National Independent Innovation Demonstration Zone Policy on Provincial-Level Innovation (ID: 116)

Meihong Zhu

Financial Fraud Anomaly Detection of Listed Companies Based on Probabilistic Perspective Machine Learning Models (ID: 149)

Aihua Li, Boxin Fu, Yuxi Tong, Yunqi Li, Zhiying Tang and Zhidi Shang

Research on the Impact of Corporate Serial Emergencies Based on Knowledge Graph (ID: 150)

Zhiying Tang and Yuxue Chi

Applications and Challenges of Artificial Intelligence in Traditional Chinese Medicine (ID: 171)

Shikun Luo, Aihua Li and Zhidong Liu

About IAITQM & ITQM Conferences

The inauguration meeting of IAITQM successfully took place in Omaha of United States on Sunday, June 3, 2012. More than 50 participants, coming from China, United States, Australia, South Korea, Japan, Netherlands, Poland, Romania, Singapore, Spain, Lithuania, Turkey and other countries, attended the meeting.

IAITQM is glad to have **Prof. Siwei Cheng** (Economist and social activist in China, Former Vice Chairman of the Standing Committee of the National People's Congress of China, Former Chairman of the Central Committee of the China National Democratic Construction Association, Member of the International Eurasian Academy of Sciences, deceased), **Mr. Walter Scott** (Chairman of Level 3 Communications Inc., board member of Berkshire Hathaway Inc., deceased), and **Prof. James M. Tien** (Member of National Academy of Engineering/University of Miami) to serve as the Honorary Chairmen. IAITQM attendees discussed and passed the IAITQM bylaws, and held the first election. Attendees elected Prof. Yong Shi as the President, Prof. Peter Wolcott as the Vice President for Conferences, Prof. Wikil Kwak as the Vice President for Finance and Prof. Jianping Li as the Secretary. According to the bylaws, the attendees also elected five committees and their chairpersons, namely, the advisory committee, the awards committee, the executive committee, the conferences committee, and the publications committee.

IAITQM's Vision: The International Academy of Information Technology and Quantitative Management (The Academy) is a global community for educators, scholars, policy makers and professionals to promote innovation and excellence of information technology and quantitative management.

IAITQM's Mission:

The Academy

- ✓ Develops and maintains a professional identity for all educators, scholars, policy makers and professionals in the fields of information technology and quantitative management around the world;
- ✓ Promotes the use of information technology in business and other areas to gain competitive capability;
- ✓ Promotes the development of quantitative models in support of identifying solutions that can improve business management and operations;
- ✓ Provides multiple interchange or communication venues, including conferences, journals, books, newsletters, etc. to enhance the exchanges of ideas, research findings and business practices related to information technology and quantitative management;
- ✓ Acts as a leading association of information technology and quantitative management to improve business efficiency and effectiveness and eventually the quality of life for all humans.

The IAITQM inauguration meeting, June 3, 2012, Omaha, USA

The First International Conference on Information Technology and Quantitative Management, May 2013, Suzhou, China

The Second International Conference on Information Technology and Quantitative Management, June 2014, Moscow, Russia

The Third International Conference on Information Technology and Quantitative Management, July 2015, Rio de Janeiro, Brazil

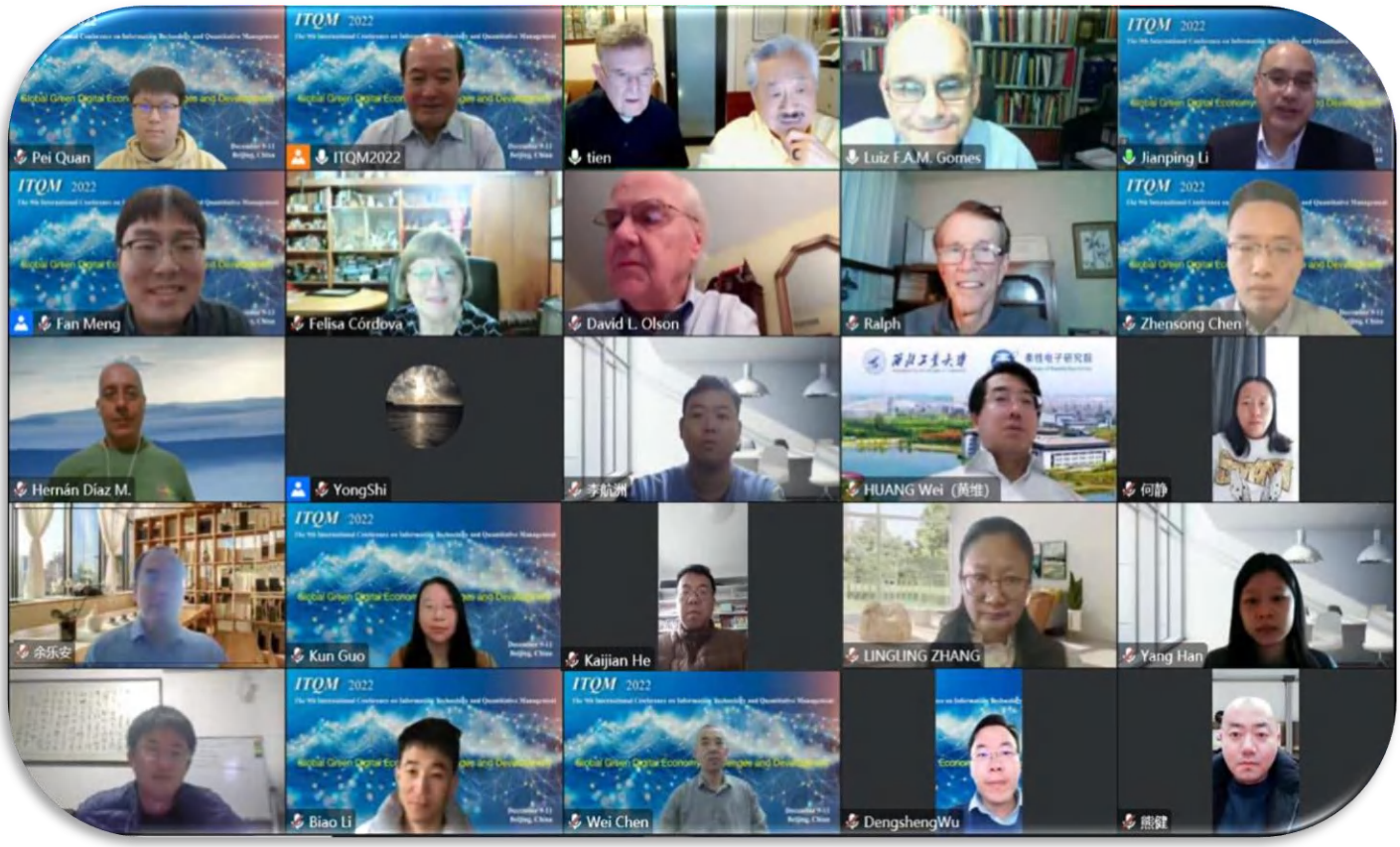
The Fourth International Conference on Information Technology and Quantitative Management, August 2016, Asan, Korea

The Fifth International Conference on Information Technology and Quantitative Management, December 2017, New Delhi, India

The Sixth International Conference on Information Technology and Quantitative Management, October 2018, Omaha, USA

The Seventh International Conference on Information Technology and Quantitative Management, November 2019, Granada, Spain

The Eighth International Conference on Information Technology and Quantitative Management, July 2021, Chengdu, China



The Ninth International Conference on Information Technology and Quantitative Management, December 2022, Beijing (Online), China

The Tenth International Conference on Information Technology and Quantitative Management, August 2023, Oxford, UK

The Eleventh International Conference on Information Technology and Quantitative Management, August 2024, Bucharest, Romania

Locations of Previous ITQM Conferences

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