

Zhou HE, PhD

Associate Professor

School of Economics and Management, University of Chinese Academy of Sciences

Phone & WeChat: +86 138 1179 7323

E-mail: hezhou@ucas.ac.cnHome page: <http://www.AgentLab.cn>Google Scholar: <https://scholar.google.com/citations?user=oX3khWEAAAAJ>

Address: N606-3, 3 Zhongguancun Nanyitiao, Haidian District, Beijing 100190, China

**Research Interests with Selected Publications****Agent-based modeling and simulation (ABMS):** [19]

ABMS + Supply Chain: [17, 15]

ABMS + Sharing Economy: [16, 18]

ABMS + Urban Management: [9, 12]

ABMS + others: [13, 14, 21]

Education

2011 – 2014	The University of Chinese Academy of Sciences (UCAS) Ph.D. in Management Science, <i>summa cum laude</i>	Beijing, China 2014.06
	One-year joint supervision in Hong Kong Polytechnic University (HK PolyU) Thesis: <i>Competitive Supply Chain Evolution based on Complex Adaptive System Theory</i> Advisors: Jichang Dong (Prof. Dong), Shouyang Wang (Prof. Wang) & T.C.E. Cheng (Prof. Cheng)	2012.08-2013.07
2008 – 2011	The Beijing University of Posts and Telecommunications (BUPT) M.Eng. in Management Information System B.Sc. in Electronic Commerce	Beijing, China 2011.04 2008.06

Employment

2018.12 – now	Associate Professor, School of Economics and Management (SEM), UCAS
2018.09-2018.11	Assistant Professor, SEM, UCAS
2018.05-2018.08	Senior Research Fellow, Department of Industrial Systems Engineering and Management, National University of Singapore (NUS)
2014.09-2018.04	Research Fellow, Department of Industrial Systems Engineering and Management, NUS

Awards

2022	Second Prize, Science & Technology Progress Award, Beijing
2022	First Prize, Science & Technology Progress Award, China Federation of Logistics & Purchasing
2022	Best Paper Award finalist, The 7th International Conference on Smart Finance
2021	Weiqiao-UCAS President's Education Award, UCAS
2018	Second Prize, Outstanding Achievement in Social Science, Shanghai
2018	Excellence Award, Global Optimization Challenge, JD.com (JD.com)
2014	Presidential Scholarship, Chinese Academy of Sciences (CAS)
2015	Best Doctoral Dissertation Award, CAS
2013	National Scholarship, UCAS
2005	National Scholarship, BUPT

Courses Taught

S = Spring; A = Autumn

1201Z1M05005H	System Modeling and Simulation (2019S, 2019A, 2020A, 2021A, 2022A), First-class Course of SEM (2022) & Excellent Graduate Course of UCAS (2022)
120100M01002H	Stochastic Modeling (2019A, 2020A, 2021A)
1201Z1M05006H	Decision Analysis (2020A, 2021A)

Students (Co-)Supervision

PhD and Master are academic degrees; others are professional degrees

PhD.	Qi Song (2020 –) Yixi Liu (with Prof. Dong, 2018 –) Yihan Jing (with Prof. Dong, 2018 –)
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	Rui Liang (with Prof. Dong , 2017-2020, <i>Research on the Relationship Between Trading System, Investor Behavior and Stock Market Quality: A Case Study of Sci-Tech Innovation Board</i>) China Central Depository & Clearing
	Aiya Li (with Xianhua Wei (Prof. Wei), 2017-2020, <i>Research on Incentive and Consensus Mechanism of Blockchain</i>) Agricultural Bank of China
Master	Yanni Li (2022 –)
	Zijun Zhong (2021 –)
Master of Finance	Zhiyuan Sun (2021-2023,)
	Jiangling He (2021-2023,)
	Lingchen Wu (2020-2022, <i>The Influence of Financial Technology Application Information Disclosure on the Value of Financial Enterprises</i>) CITIC Futures
	Yuan Xue (2020-2022, <i>A Quantitative Research on Digital Currency Policies Text</i>) China Unicom
MBA	Yanan Liang (2020-)
	Qilin Yi (2020-2022, <i>Research on Supply Efficiency Evaluation and Demand Prediction of Elderly Care Services in China</i>) Beijing HouYi Technology Co., Ltd
	Dailun Du (2020-2022, <i>Quantitative Research on Policy Texts in the Field of Green Finance in China</i>) Dongcheng District, People's Government of Beijing Municipality

Research Projects

1 k¥ = 1000 CNY

2023-2026, PI	Standardization, modularization, engineering of agent-based modeling and simulation method for complex managerial system research, National Natural Science Foundation of China (NSFC), 470 k¥
2022-2023, PI	Performance evaluation of science communication of CAS institutes, CAS , 200 k¥
2021-2023, PI	Standardization protocol of agent-based model, UCAS , 500 k¥
2021-2022, Co-PI	Big-data-based verification system for military industry qualification, Academy of Military Sciences, 450 k¥
2020-2020, Co-PI	Construction planning of new public security infrastructure, Ministry of Public Security, 450 k¥
2020-2022, PI	Governance of sharing economy based on the complex adaptive system theory, NSFC , 200 k¥
2019-2020, PI	Simulation and mechanism design of supply chain finance system based on blockchain, UCAS , 200 k¥
2018-2019, PI	Green finance supports green building development, China Academy of Building Research, 100 k¥
2012-2013, PI	Research on supply chains risk management, HK PolyU , ~100 k¥
2023-2026, member	Theory and methods for supply chain network resilience, UCAS , 500/3000 k¥
2023-2026, member	Revenue management of rural homestay inn for multi-agent value co-creation, NSFC , 450 k¥
2020-2020, member	Research on the fundamental institutional construction of Public-Private Partnership project, NSFC , 1000 k¥
2020-2024, member	Research on smart supply chain financial model based on network ecology, NSFC , 2400 k¥
2019-2022, member	Roles of multiple uncertainties in Energy-Economy-Environmental system integrated modeling and mitigation policy analysis, NSFC , 490 k¥
2019-2021, member	Real estate market and financial risk management, NSFC , 200 k¥
2012-2017, member	The energy and environmental sustainability solutions for megacities, National Research Foundation Singapore, ~113000 k¥

Scientific and Professional Society Memberships

2022 – now	Vice Chairman , Supply Chain Group, Alliance of Industrial Internet of China (AI)
2022 – now	Council member , Decision Science Division, Operations Research Society of China
2022 – now	Member , Youth Innovation Promotion Association, CAS
2022 – now	Member , European Social Simulation Association
2022 – now	Member , Industrial Internet Working Committee, Alliance of Emerging Engineering Education for Information Technologies, China Software Industry Association
2022 – now	Adjunct Researcher , MOE Social Science Laboratory of Digital Economic Forecasts and Policy Simulation, UCAS
2021 – now	Adjunct Researcher , Binzhou Weiqiao National Higher Technology Research Institute
2020 – now	Council member , Society of Management Science and Engineering of China
2019 – now	Adjunct Researcher , Key Laboratory of Big Data Mining and Knowledge Management, CAS

Ad-hoc Service

2022.06	External Examiner for master and doctoral thesis examination at Xidian University, China
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2022.04	External Examiner for master thesis examination, China Academic Degrees & Graduate Education Development Center, Ministry of Education
2021.04, 2022.04	External Examiner for master thesis examination at Beijing University of Chemical Technology, China
2021.07	External Examiner for master thesis examination at University of Tasmania, Australia
2016.01	CREATE Scientist , MIT Global Connector Program (GCP)

Journal Activities

Guest Editor	Special issue on <i>Operations and Finance Interface in Supply Chains in the Era of Financial Technology</i> , with J. Li and S. Wang, International Journal of Production Economics
Guest Editor	Special issue on <i>Blockchain for Sustainable Supply Chains</i> , with J. Li, Y. Li and B. Xia, Sustainability

Conference Activities

Program Committee

Aug. 20-22, 2020	International Conference on Smart Finance 2020. Beidaihe China
Jul. 26-28, 2019	International Conference on Smart Finance 2019. Beijing China

Track Coordinator

Oct. 14-16, 2022	The 10th Annual Meeting of China Association for Information Systems, <i>Digital-intelligent methods and application for enterprise risk early-warning</i> , . Shanghai, China
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Session Chair

May 20-23, 2017	IISE Annual Conference & Expo, 2017. Pittsburgh USA
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Conference Presentations

May 20-23, 2017	<i>A Stochastic Programming Approach for the Design of Multi-Story Recycling Facility</i> , IISE Annual Conference & Expo, 2017. Pittsburgh USA
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Invited Presentations

Nov 01, 2022	<i>Global supply network under tariff war</i> , online. Invited by the Academy of Mathematics and Systems Science, CAS
Sep 24, 2022	<i>Agent-based simulation for decision-making: Framework and applications</i> , online, DataFun Summit 2022. Invited by JD.com, Digital Brain Laboratory
Jun 04, 2022	<i>Simulation-based decision-making: Methods and applications</i> , online. Invited by Alibaba Business School, Hangzhou Normal University
Jan 12, 2022	<i>Complex managerial system research based on agent-based modeling and simulation approach</i> , online. Invited by School of International and Public Affairs, Shanghai Jiao Tong University
Dec 24, 2021	<i>Global supply network under tariff war</i> , The 1st “SEM Brown Bag Seminar at UCAS ”, Beijing. Invited by SEM , UCAS
Nov 24, 2021	<i>Complex managerial system research based on agent-based modeling and simulation approach</i> , The 8th Online Seminar on “Complexity Management”, online. Invited by Swarma Club (Swarma.org)
Jul 05, 2021	<i>Agent-based modeling of firms</i> , The 10th Online Seminar on “Firm Modeling and Forecasting Development”, online. Invited by Swarma.org
May 14, 2021	<i>Agent-based modeling of online food ordering and delivery market</i> , The 12th International Online Seminar on “Artificial Societies and Information Technology”, online. Invited by Central Economics and Mathematics Institute, Russian Academy of Sciences
Apr 16, 2021	<i>Agent-based modeling and simulation for operation management</i> , Wuhan. Invited by School of Business Administration, Zhongnan University of Economics and Law
Nov 23, 2020	<i>Index research methods and applications</i> , Beijing. Invited by International Business School, Beijing Foreign Studies University
Nov 13, 2020	<i>Agent-based modeling and simulation for complex managerial systems</i> , The 1st “SEM Seminar of Young Scholars”, Beijing. Invited by SEM , UCAS

Publications

* asterisks denote corresponding authors

Books (5)

- [1] Jichang Dong, Ying Liu, Xiuting Li, **Zhou He**, Zhi Dong, et al. *China Real Estate Market Review and Outlook 2020*. China Science Publishing & Media, 2020. In Chinese.
- [2] Jichang Dong, Ying Liu, Xiuting Li, **Zhou He**, Zhi Dong, et al. *China Real Estate Market Review and Outlook 2021*. China Science Publishing & Media, 2021. In Chinese.

Publication category	Quantity
Books	5
Published Journal Articles (peer-reviewed)	20
Editorial	1
White Papers	3
Standards	1
Accepted Conference Articles (peer-reviewed)	5
Total:	35

- [3] Jichang Dong, Di Wu, Xiuting Li, **Zhou He**, Zhi Dong, et al. *China Real Estate Market Review and Outlook in 2012*. China Science Publishing & Media, 2012. In Chinese.
- [4] Jichang Dong, Di Wu, Xiuting Li, **Zhou He**, Zhi Dong, et al. *China Real Estate Market Review and Outlook in 2014*. China Science Publishing & Media, 2014. In Chinese.
- [5] Shouyang Wang, Lizhi Xu, **Zhou He**, et al. *2012 Global Top 20 Container Port Forecast Report*. Global-Link Publisher, 2012. In Chinese.

Published Journal Articles (peer-reviewed) (20)

- [6] Lili Zhang, **Zhou He**^{*}, and Xiuting Li. A system-dynamics-based research on the sustainable development of xinjiang's tourist industry. *Management Review*, (07):37–45, 2014. In Chinese.
- [7] **Zhou He**, Bo Fan^{*}, T. C. E. Cheng, Shou-Yang Wang, and Chin-Hon Tan. A mean-shift algorithm for large-scale planar maximal covering location problems. *European Journal of Operational Research*, 250(1):65–76, April 2016.
- [8] Bo Fan^{*}, Long Chen, Yih Tng Chong, and **Zhou He**. Mining for Spatio-temporal Distribution Rules of Illegal Dumping from Large Dataset. *SIGMIS Database*, 47(3):41–53, August 2016.
- [9] **Zhou He**, Jie Xiong, Tsan Sheng Ng, Bo Fan^{*}, and Christine A. Shoemaker. Managing competitive municipal solid waste treatment systems: An agent-based approach. *European Journal of Operational Research*, 263(3):1063–1077, December 2017.
- [10] Jie Xiong, Tsan Sheng Ng, **Zhou He**^{*}, and Bo Fan. Modelling and analysis of a symbiotic waste management system. *International Journal of Production Research*, 55(18):5355–5377, September 2017.
- [11] Chunling Luo^{*}, **Zhou He**, and Chin Hon Tan. Almost stochastic dominance under inconsistent utility and loss functions. *Journal of Applied Probability*, 54(03):763–772, September 2017.
- [12] **Zhou He**, Jichang Dong, and Lean Yu^{*}. An agent-based model for investigating the impact of distorted supply–demand information on China's resale housing market. *Journal of Computational Science*, 25:1–15, March 2018.
- [13] Zhenfeng Cao^{*}, **Zhou He**, and Neil F. Johnson. Impact on the topology of power-law networks from anisotropic and localized access to information. *Physical Review E*, 98(4):042307, October 2018.
- [14] Zhenfeng Cao, Minzhang Zheng, Pedro D. Manrique, **Zhou He**, and Neil Johnson^{*}. Temporal evolution of online extremist support. *Physica A: Statistical Mechanics and its Applications*, 519:169–180, April 2019.
- [15] **Zhou He**^{*}, T. C. E. Cheng, Jichang Dong, and Shouyang Wang. Evolutionary location and pricing strategies in competitive hierarchical distribution systems: A spatial agent-based model. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 44(7):822–833, July 2014.
- [16] **Zhou He**^{*}, T. C. E. Cheng, Jichang Dong, and Shouyang Wang. Evolutionary location and pricing strategies for service merchants in competitive O2O markets. *European Journal of Operational Research*, 254(2):595–609, 2016.
- [17] **Zhou He**^{*}, Shouyang Wang, and T. C. E. Cheng. Competition and evolution in multi-product supply chains: An agent-based retailer model. *International Journal of Production Economics*, 146(1):325–336, 2013.
- [18] **Zhou He**, Guanghua Han, T. C. E. Cheng, Bo Fan, and Jichang Dong^{*}. Evolutionary food quality and location strategies for restaurants in competitive online-to-offline food ordering and delivery markets: An agent-based approach. *International Journal of Production Economics*, 215:61–72, September 2019.
- [19] **Zhou He**, Chunling Luo, Chin-Hon Tan, Hang Wu, and Bo Fan^{*}. Simulating an agent's decision-making process in black-box managerial environment: An estimation-and-optimisation approach. *Journal of Simulation*, 13(2):111–127, April 2019.
- [20] Aiya Li, Xianhua Wei, and **Zhou He**^{*}. Robust Proof of Stake: A New Consensus Protocol for Sustainable Blockchain Systems. *Sustainability*, 12(7):2824, January 2020. Number: 7 Publisher: Multidisciplinary Digital Publishing Institute.
- [21] Xianhua Wei, Aiya Li, and **Zhou He**^{*}. Impacts of Consensus Protocols and Trade Network Topologies on Blockchain System Performance. *Journal of Artificial Societies and Social Simulation*, 23(3):2, 2020.
- [22] Xiaoyu Ma, Jihong Zhang, Yuan Cao, **Zhou He**^{*}, and Jonas Nebel. Dynamic Plan Control: An Effective Tool to Manage Demand Considering Mobile Internet Network Congestion. *Applied Sciences*, 11(1):91, 2021. Number: 1 Publisher: Multidisciplinary Digital Publishing Institute.

- [23] Yixi Liu, Peilong Wang, **Zhou He***, and Jichang Dong. Real estate rental market: a 10-year bibliometric-based review. *Economic Research-Ekonomska Istraživanja*, 0(0):1–37, December 2020.
- [24] Rui Liang, Jichang Dong, **Zhou He**, and Ying Liu*. Will sci-tech innovation board improve the quality of china’s stock market: Based on multi-agent modeling. *Systems Engineering — Theory & Practice*, 42(1):76–83, 2022. In Chinese.
- [25] Jian Li, **Zhou He***, and Shouyang Wang. A survey of supply chain operation and finance with Fintech: Research framework and managerial insights. *International Journal of Production Economics*, 247:108431, May 2022.

Editorial (1)

- [26] Jian Li, **Zhou He***, and Shouyang Wang. Advances in operation and finance in supply chains. *International Journal of Production Economics*, 255:108707, January 2023.

White Papers (3)

- [27] Zuojun Shen, Xiaoyu Ma, Yuli Zhang, Tianhu Deng, Mingzheng Wang, **Zhou He**, et al. White paper on supply chain innovation and application based on industrial internet. White paper, Alliance of Industrial Internet of China, 2021. In Chinese.
- [28] Yongjian Li, Mingzheng Wang, Jihong Zhang, **Zhou He**, Xiaoyu Ma, Mo Liu, Bin Shen, et al. White paper on industrial internet platform empowering industry chain and supply chain. White paper, Alliance of Industrial Internet of China, 2021. In Chinese.
- [29] Jianbo Hu, **Zhou He**, et al. Industrial internet standard system. White paper, Alliance of Industrial Internet of China, 2021. In Chinese.

Standards (1)

- [30] **Zhou He** et al. Reference architecture for digital and intelligent supply chain. Alliance of Industrial Internet of China, 2022. In Chinese.

Accepted Conference Articles (peer-reviewed) (5)

- [31] Tsan Sheng Adam Ng, Jie Xiong, and **Zhou He**. A market competition model for waste recycling systems. In *The 18th International Conference on Industrial Engineering*, 2016.
- [32] Elizaveta Kuznetsova, Tsan Sheng Adam Ng, Michel-Alexandre Cardin, and **Zhou He**. A stochastic programming approach for the design of multi-story recycling facility. In *IISE Annual Conference & Expo*, 2017.
- [33] Zhiyue Yang, **Zhou He**, and Chin-Hon Tan. Dominance of the maximum geometric mean portfolio in the long run. In *IISE Annual Conference & Expo*, 2017.
- [34] Qiong Wu, Sixiang Zhao*, and **Zhou He**. A lagrangian decomposition approach for the capacity planning problem in an elastic cloud compute service. In *IISE Annual Conference & Expo*, 2022.
- [35] Jichang Dong, Yihan Jing, and **Zhou He***. Coordination of insured satellite launch supply chain: government subsidy or blockchain adoption? In *The 7th International Conference on Smart Finance*, 2022.