

Curriculum Vitae

 **JUN WU**

Professor, International Academic Center of Complex Systems,
Beijing Normal University

CONTACT

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RESEARCH INTERESTS

Complex Network; Complex System; Voting & Ranking; Game Theory

EDUCATION

- **Dec 2007–Dec 2008**
Imperial College London
Applied Mathematics · Visiting PhD student
United Kingdom · London
 - **Apr 2007–Jun 2007**
Chinese Academy of Sciences
Network Engineering · Visiting PhD student
China · Beijing
 - **Sep 2002–Dec 2008**
National University of Defense Technology
Management Science · PhD
China · Changsha
 - **Sep 1998–Jul 2002**
Sichuan University
Management Science · B. A
China · Chengdu
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WORKING EXPERIENCE

- **Jan 2020–**
Professor of System Science
International Academic Center of Complex Systems
Beijing Normal University
China · Zhuhai
- **Dec 2016–Dec 2019**
Professor of Management Science
College of Information System and Management
National University of Defense Technology
China · Changsha
- **Mar 2016–Mar 2017**
Visiting Scholar
Department of Compute Science
University of California, Davis
Davis, USA
- **Dec 2010–Dec 2016**
Associate Professor of Management Science
College of Information System and Management
National University of Defense Technology
China · Changsha
- **Dec 2008–Dec 2010**
Lecturer of Management Science
College of Information System and Management
National University of Defense Technology
China · Changsha

TEACHING EXPERIENCE

- **Sep 2010–Dec 2019**
Applied Statistics
National University of Defense Technology
Course for undergraduate
 - **Sep 2012–Dec 2019**
Modelling and Visualization of Complex Networks
National University of Defense Technology
Course for undergraduate
 - **Feb 2009–Dec 2019**
Network Science
National University of Defense Technology
Course for postgraduate
 - **Sep 2012–Dec 2019**
Statistics for Management
National University of Defense Technology
Course for MPA
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GRANTS

- National Science Foundation of China under Grant No. 71871217, “*Study on Disintegration of Complex Networks with Incomplete Information based on Link Prediction*”, 2019-2022, RMB 500,000, PI
- Natural Science Foundation of Hunan Province under Grant No. 2019JJ20019, “*Study on Disintegration of Complex Networks with Incomplete Information*”, 2019-2021, RMB 500,000, PI
- Program for New Century Excellent Talents in University, “*Complex Systems and Complex Networks*”, 2013-2015, RMB 20,0000, PI
- National Science Foundation of China under Grant No. 71371185, “*Enhancement Method for Invulnerability of Complex Networks based on Node Information Camouflage*”, 2014-2017, RMB 580,000, PI
- National Science Foundation of China under Grant No. 60904065, “*Spectral Measure of Structural Robustness in Complex Networks*”, 2009-2012, RMB 180,000, PI

AWARDS

- Youth Science and Technology Prize of the Systems Engineering Society of China, 2018
- Nomination Awards of the National Outstanding Doctoral Dissertations, 2011
- CASC Scholarship, National University of Defense Technology, 2007
- Guanghua Scholarship, National University of Defense Technology, 2006
- First Prize Scholarship, Sichuan University, 1999, 2000

SCIENTIFIC SOCIETIES

- Council Member of Society of Management Science and Engineering of China
- Council Member of Professional Committee of Complex Systems and Complex Networks
- Council Member of Professional Committee of System Theory
- Chair of the Organization Committee of CCCN'2014
- Chair of the Mini-symposia in ICIAM'2015
- Chair of the session “Network reliability and resilience” in NetSciX'2017
- Chair of the session “Reliability of Complex Networked System” in CSSC'2018
- Member of Technical Program Committee of PESARO, 2012-present

REFEREES

- European Journal of Operational Research
- Computer & Operations Research
- IEEE Transactions on Network Science and Engineering

- Reliability Engineering & System Safety
- Risk Analysis
- Decision Support Systems
- IEEE Transactions on Systems, Man, and Cybernetics A
- International Journal of Systems Science
- Journal of Systems Science and Complexity
- IEEE Communications Letters
- Plos One
- Journal of Physics
- Physics A
- Physics Letters A
- Physics Scripta
- Chinese Journal of Aeronautics
- Chinese Physics Letters
- Chinese Physics

PUBLICATIONS

* Corresponding Author

1. Ke Wang, Jinfeng Liu, Lai Tian, Xianfeng Tan, Guansheng Peng, Tianwen Qin, Jun Wu*. Analyzing vulnerability of optical fiber network considering recoverability. Reliability Engineering & System Safety, 2022, 221 108308 (JCR Q1, IF=6.188)
2. Zhi-Gang Wang, Ye Deng, Ze Wang, Jun Wu*. Disintegrating spatial networks based on region centrality. Chaos, 2021, 31 (6): 061101 (JCR Q1, IF=2.832)
3. Yang Zhang, Yu Xiao, Jun Wu*, Xin Lu. Comprehensive world university ranking based on ranking aggregation. Computational Statistics, 2021, 36 (2): 1139-1152 (JCR Q4, IF=1.0)
4. Yu Xiao, Hong-Zhong Deng, Xin Lu, Jun Wu*. Graph-based Rank Aggregation Method for High-dimensional and Partial Rankings [J]. Journal of the Operational Research Society, 2021, 72 (1): 227-236 (JCR Q2, IF=2.175)
5. Ye Deng, Jun Wu , Yu Xiao, Mengxiang Zhang, Yang Yu, and Yang Zhang. Optimal Disintegration Strategy With Heterogeneous Costs in Complex Networks [J]. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2020, 50(8): 2905-2913 (JCR Q1, IF=5.135)

6. Ya-Peng Li, Ye Deng, Yu Xiao, Jun Wu*. Attack and Defense Strategies in Complex Networks Based on Game Theory [J]. *Journal of Systems Science and Complexity*, 2019, 32 (6): 1630-1640 (JCR Q4, IF= 2.243)
7. Ye Deng, Jun Wu*, Ming-Ze Qi, Yue-Jin Tan. Optimal disintegration strategy in spatial networks with disintegration circle model [J]. *Chaos*, 2019, 29 (6): 061102 (JCR Q1, IF=2.415)
8. Ming-Ze Qi, Suoyi Tan*, Hong-Zhong Deng, Jun Wu*. Evaluating link significance in maintaining network connectivity based on link prediction [J]. *Chaos*, 2019, 29 (8): 083120 (JCR Q1, IF=2.415)
9. Yu Xiao, Hongzhong Deng, Xin Lu, Jun Wu*. Optimal ballot-length in approval balloting-based multi-winner elections [J]. *Decision Support Systems*, 2019, 118 (1): 1-9 (JCR Q1, IF=3.565)
10. Yu Xiao, Hong-Zhong Deng, Xin Lu, Jun Wu*. Graph-based Rank Aggregation Method for High-dimensional and Partial Rankings [J]. *Journal of the Operational Research Society*, 2020
11. Ya-Peng Li, Shun Qiao, Ye Deng, Jun Wu*. Stackelberg game in critical infrastructures from a network science perspective [J]. *Physica A*, 2019, 521 (5): 705-714 (JCR Q1, IF= 2.243)
12. Mingze Qi, Ye Deng*, Hongzhong Deng, Jun Wu*. Optimal disintegration strategy in multiplex networks [J]. *Chaos*, 2018, 28 (12): 121104 (JCR Q1, IF=2.415)
13. Ya-Peng Li, Suo-Yi Tan, Ye Deng, Jun Wu*. Attacker-defender game from a network science perspective [J]. *Chaos*, 2018, 28 (5): 051102 (JCR Q1, IF=2.415)
14. Yang Yu, Ye Deng, Suo-Yi Tan, Jun Wu*. Efficient disintegration strategy in directed networks based on tabu search [J]. *Physica A*, 2018, 507 (10): 435-442 (JCR Q1, IF= 2.243)
15. Jun Wu*, Suo-Yi Tan, Zhong Liu, Yue-Jin Tan. Enhancing structural robustness of scale-free networks by information disturbance. *Scientific Reports*, 2017, 7: 7559 (JCR Q1, IF=5.228)
16. Yu Xiao, Ye Deng, Jun Wu*, Hong-Zhong Deng, Xin Lu. Comparison of rank aggregation methods based on inherent ability [J]. *Naval Research Logistics*, 2017, 64 (6): 556-565 (JCR Q4, IF=0.753)
17. Guan-Sheng Peng, Suo-Yi Tan, Jun Wu*, Holme P. Trade-offs between robustness and small-world effect in complex networks. *Scientific Reports*, 2016, 6: 37317 (JCR Q1, IF=5.228)

18. Suo-Yi Tan, Jun Wu*, Lin-Yuan Lü, Meng-Jun Li. Efficient network disintegration under incomplete information: the comic effect of link prediction [J]. *Scientific Reports*, 2016, 6: 22916 (JCR Q1, IF=5.228)
19. Suo-Yi Tan Jun Wu*, Meng-Jun Li, Xin Lu. Approximating natural connectivity of scale-free networks based on largest eigenvalue [J]. *Europhysics Letters*, 2016, 114 (5): 58002 (JCR Q2, IF=1.957)
20. Guan-Sheng Peng, Jun Wu*. Optimal Network Topology for Structural Robustness Based on Natural Connectivity. *Physica A*, 2016, 443: 212-220 (JCR Q1, IF= 2.243)
21. Ye Deng, Jun Wu*, Yue-Jin Tan. Optimal attack strategy of complex networks based on tabu search [J]. *Physica A*, 2016, 442: 74-81 (JCR Q1, IF= 2.243)
22. Hong-Zhong Deng, Peter Abell, Ofer Engel, Jun Wu, Yue-Jin Tan. The influence of structural balance and homophily/heterophobia on the adjustment of random complete signed networks [J]. *Social Networks*, 2016, 44 190-201
23. Ye Deng, Jun Wu*, Yue-Jin Tan. A fast connected component algorithm based on hub contraction, *IEEE SMC'2016* [C]. Budapest, Hungary: IEEE, 2016.
24. Ye Deng, Jun Wu*. Optimal attack strategy with heterogeneous costs in complex networks, *IEEE SysCon'2016* [C]. Orlando, USA: IEEE, 2016
25. Ye Deng, Jun Wu*. Optimal Attack Strategy Based on Limited Cost Model on Complex Network, *IEEE SMC'2015* [C]. Hongkong: IEEE, 2015
26. Xiao-Ke Zhang, Jun Wu*, Cui-Ying Duan, M. T. M. Emmerich. Towards robustness optimization of complex networks based on redundancy backup, *IEEE CEC'2015* [C]. Sendai, Japan: IEEE, 2015
27. Xiao-Ke Zhang, Jun Wu*, Yong Li, Hong-Zhong Deng, Yue-Jin Tan. Structural Robustness of Weighted Complex Networks Based on Natural Connectivity. *Chinese Physics Letters*, 2013, 30(10): 108901 (JCR Q3, IF= 0.800)
28. Jun Wu*, Mauricio Barahona, Yue-Jin Tan, Hong-Zhong Deng. Robustness of random graphs based on graph spectra. *Chaos*, 2012, 22(4): 043101 (JCR Q1, IF=2.283)
29. Hong-Zhong Deng, Peter Abell, Ji Li, Jun Wu. A study of sign adjustment in weighted signed networks [J]. *Social Networks*, 2012, 34 (2): 253-263
30. Jun Wu*, Mauricio Barahona, Yue-Jin Tan, Hong-Zhong Deng. Spectral Measure of Robustness in Complex Networks. *IEEE Transaction on Systems, Man, and Cybernetics A*, 2011, 41(6): 1244-1252 (JCR Q1, IF=2.350)

31. Jun Wu*, Mauricio Barahona, Yue-Jin Tan, Hong-Zhong Deng. Robustness of regular ring lattices based on natural connectivity. *International Journal of Systems Science*, 2011, 42(7): 1085-1072 (JCR Q2, IF=1.305)
32. Jun Li, Jun Wu*, Yong Li, Hong-Zhong Deng, Yue-Jin Tan. Optimal Attack Strategy in Random Scale-Free Networks Based on Incomplete Information. *Chinese Physics Letters*, 2011, 28(6): 068902 (JCR Q3, IF= 0.800)
33. Jun Li, Jun Wu*, Yong Li, Hong-Zhong Deng, Yue-Jin Tan. Attack Robustness of Scale-Free Networks Based on Grey Information. *Chinese Physics Letters*, 2011, 28(5): 058904 (JCR Q3, IF= 0.800)
34. Jun Wu*, Mauricio Barahona, Yue-Jin Tan, Hong-Zhong Deng. Natural Connectivity of Complex Networks. *Chinese Physics Letters*, 2010, 27(7): 078902 (JCR Q3, IF= 0.800)
35. Yong Li, Jun Wu*, An-Quan Zou. Effect of Eliminating Edges on Robustness of Scale-Free Networks under Intentional Attack. *Chinese Physics Letters*, 2010, 27(6): 068901 (JCR Q3, IF= 0.800)
36. Jun Wu*, Yue-Jin Tan, Hong-Zhong Deng, Da-Zhi Zhu. Relationship between degree-rank function and degree distribution of protein-protein interaction networks. *Computational Biology and Chemistry*, 2008, 32(1): 1-4 (JCR Q3, IF=1.331)
37. Jun Wu*, Hong-Zhong Deng, Yue-Jin Tan, Da-Zhi Zhu. Vulnerability of complex networks under intentional attack with incomplete information. *Journal of Physics A*, 2007, 40(11): 2665-2671 (JCR Q1, IF=1.857)
38. Jun Wu*, Yue-Jin Tan, Hong-Zhong Deng, Da-Zhi Zhu, CHI Yan. Relationship between degree-rank distributions and degree distributions of complex Networks. *Physica A*, 2007, 383(2): 745-752 (JCR Q1, IF= 2.243)
39. Jun Wu*, Hong-Zhong Deng, Yue-Jin Tan, Yong Li, Da-Zhi Zhu. Attack vulnerability of complex networks based on local information. *Modern Physics Letters B*, 2007, 21(16): 1007-1014 (JCR Q4, IF= 0.617)
40. Jun Wu*, Yue-Jin Tan, Hong-Zhong Deng, Da-Zhi Zhu. Normalized entropy of rank distribution: a novel measure of heterogeneity of complex networks. *Chinese Physics*, 2007, 16(6): 1576-1580 (JCR Q2, IF=1.223)
41. Jun Wu*, Yue-Jin Tan, Hong-Zhong Deng, Da-Zhi Zhu. A robustness model of complex networks with tunable attack information parameter. *Chinese Physics Letters*, 2007, 24(7): 2138-2141 (JCR Q3, IF= 0.800)
42. Jun Wu*, Yue-Jin Tan, Hong-Zhong Deng, Da-Zhi Zhu. Heterogeneity of Scale-free Networks. *Systems Engineering - Theory & Practice*, 2007, 27(5): 101-105

43. Yue-Jin Tan, Jun Wu*, Hong-Zhong Deng, Yong Li. Maximum Degree and Average Degree of Scale-free Networks. *Dynamics of Continuous, Discrete and Impulsive Systems B*, 2007, 14(S7): 60-62
44. Jun Wu*, Yue-Jin Tan. Finding the most vital node by node contraction in communication networks, *International Conference on Communications, Circuits and Systems (ICCCS'2005)* [C]. Hongkong: IEEE, 2005