

## 计算机学院科研团队情况介绍表

团队名称	复杂网络与社会计算			团队负责人	金小刚
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<p><b>主要情况介绍:</b></p> <p>主要从事基于社会网络的结构特征与演化模型、社区的形成及其演化机制、网络社会群智能的产生机制等方面的研究。在社会网络结构刻画、人群动力学、信息传播等方面取得了一系列创新性成果。团队长期坚持每周的学术讨论，学术氛围浓厚，学术思想活跃。欢迎有志于理论研究的同学加盟！</p>					
<b>团队主要成员</b>					
姓名	职称	研究方向			联系方式
金小刚	副教授	复杂网络、社会计算、机器学习、计算生态学			13705815020
<p><b>主要研究方向:</b></p> <p><b>网络动力学:</b> 话题演化、传染病传播、演化博弈</p> <p><b>社会计算:</b> 社会网络分析、推荐系统、群体智能</p>					
<p>1. Min, T. J. Jiang, C. Jin, Q. Li and X. G. Jin, Endogenetic structure of filter bubble in social networks, Royal Society Open Science, 2019, <a href="https://doi.org/10.1098/rsos.190868">https://doi.org/10.1098/rsos.190868</a></p> <p>2. C. Jin, C. J. Yin, X. G. Jin, Y. Min, Y. X. Li, N. L. Chen and J. X. Huang, Group-based rewiring rules of binary opinion competition dynamics, Scientific Reports, 2018, 8, 14423.</p> <p>3. X. G. Jin, C. Jin, J. X. Huang and Y. Min, Coupling effect of nodes popularity and similarity on social network persistence, Scientific Reports, 2017, 7, srep42956. (SCI, IF=4.259, 他引7次)</p> <p>4. J. X. Huang, X. G. Jin, Continuous Multiplicative Attribute Graphs Model, Journal of Shanghai Jiaotong University(Sci.), 2017, 22(1): 87-91.(EI)</p> <p>5. C. Jin, Y. F. Li, X. G. Jin, J. X. Huang, Political opinion formation: initial opinion distribution and individual heterogeneity of tolerance, Physica A: Statistical Mechanics and its Applications, 2017, 467: 257–266. (SCI, IF=1.676, 他引9次)</p> <p>6. W. H. Wang, M. M. Chen, Y. Min, X. G. Jin, Structural diversity effects of multi-layer networks on the threshold of interacting epidemics, Physica A: Statistical Mechanics and its Applications, 2016, 443: 254–262. (SCI期刊, 他引5次)</p> <p>7. G. H. Song, X. G. Jin, G. L. Chen, Y. Nie, Two-level hierarchical feature learning for image classification, Frontiers of Information Technology &amp; Electronic Engineering, 2016, 17(9): 897-906.(SCI期刊, 他引9次)</p> <p>8. X. G. Jin, Y. Min, Modeling dual-scale epidemic dynamics on complex networks with reaction diffusion processes, Journal of Zhejiang University-SCIENCE C, 2014, 15(4):265-274.(SCI期刊, 他引3次)</p> <p>9. Y. Min, J. R. Hu, W. H. Wang, Y. Ge, J. Chang, X.G. Jin, Diversity of multilayer networks and its impact on collaborating epidemics, Phys. Rev. E, 2014, 90: 062803.(SCI, 他引13次)</p>					

10. Y. Min, X. G. Jin, Y. Ge, J. Chang, The role of community mixing styles in shaping epidemic behaviors in weighted networks, PLoS ONE, 2013, 8(2): e57100.(SCI, IF=4.411, 他引19次)
11. C. B. Peng, X. G. Jin, K. C. Wong, M. X. Shi, P. Lio, Collective human mobility pattern from taxi trips in urban area, PLoS ONE, 2012, 7(4): e34487.(SCI, IF=4.411, 他引177次)
12. G. Li, X. G. Jin, Z. H. Song, Evolutionary game on a stochastic growth network, Physica A: Statistical Mechanics and its Applications, 2012, 391(24): 6664-6673.(SCI, IF=1.676, 他引8次)
13. G. L. Chen, X. G. Jin, J. G. Yang, A collaborative filtering algorithm via clustering in mobile services, International J. of Advancements in Computing Technology(IJACT), 2012, 4(13): 415-421.(EI, 他引3次)
14. X. C. Su, X. G. Jin, Y. Min, L. J. Mo, J. G. Yang, A Curve Shaped Description of Large Networks, with an Application to the Evaluation of Network Models, PLoS ONE, v.6(5)2011, e19784.  
<http://dx.plos.org/10.1371/journal.pone.0019784>. (SCI, IF=4.411)
15. Y. Min, X. G. Jin, M. Chen, Z. Z. Pan, Y. Ge, J. Chang, Pathway knockout and redundancy in metabolic networks, Journal of Theoretical Biology, 2011, 270, pp. 63-69. (SCI, IF=2.351, 他引14次)
16. Y. Min, W. Gong, X. G. Jin, J. Chang, B. J. Gu, Z. Han, Y. Ge, NCNA: integrated platform for constructing, visualizing, analyzing and sharing human-mediated nitrogen biogeochemical networks, Environmental Modelling & Software, 2011, 26, pp. 678-679.(SCI, IF=3.476, 他引10次)
17. Y. Min, X.G. Jin, J.Chang, C. H. Peng, B. J. Gu, Y. Ge, Y. Zhong, Weak indirect effects inherent to nitrogen biogeochemical cycling within anthropogenic ecosystems: A network environ analysis, Ecological Modelling, 2011(222), 3277-3284.(SCI, 他引12次)
18. J. Y. Huang, X. G. Jin}{Prevent the spreading of rumor on small-world networks, Journal of Systems Science and Complexity, 2011, 24 (3), pp. 449-456.(SCI, IF=0.263, 他引40次)
19. C. B. Peng, X. G. Jin, M. X. Shi, Epidemic Threshold and Immunization on Generalized Networks, Physica A, 2010, 389, pp. 549-560.(SCI, IF=1.676, 他引44次)
20. Y. X. Li, X. G. Jin, F. S. Kong, C. B. Peng, Cooperation and charity in spatial public goods game under different strategy update rules, Physica A, 2010, 389, pp. 1090-1098.(SCI, IF=1.676, 他引15次)
21. Y. X. Li, X. G. Jin, F. S. Kong and H. L. Luo, Strategic games on a hierarchical network model, Journal of Zhejiang University SCIENCE A, 2008, 9(2), pp. 271-278.(SCI, IF=0.527, 他引6次 )
22. L. Zhao, T. H. Cupertino, K. Park, Y. C. Lai, X. G. Jin, Optimal structure of complex networks for minimizing traffic congestion, Chaos, 2007, 17, pp. 043103.(SCI, IF=2.152, 他引29次)
23. Y. Min, X. G. Jin, X. C. Su, B. Peng}{Minimizing of the only-insertion Indel systems, J. of Zhejiang University SCIENCE, 2005 6A(10): 1021-1025. (EI)
24. X. G. Jin, J. Lin, J. G. Yang}{The generalized solutions of Benjamin-ono equations in Colombeau sense, J. of Zhejiang University SCIENCE, 2004 (11) : 1466-1470.(EI)
25. J. Lin, X. G. Jin, J. G. Yang}{A hybrid neural network model for consciousness, J. of Zhejiang University SCIENCE, 2004 (11): 1440-1448. (EI)
26. X. G. Jin, T. W. Kim}{The classification of cellular automata and complexity, International Journal of Modern Physics B, 2003, 17: 4232-4237.(SCI, IF=0.408)
27. 王健, 金小刚, EMG信号的非线性分析方法及其应用, 中国体育科技, 2000, 36(8): 26-28
28. X. N. Ma, X. G. Jin, A Necessary Condition of Solvability for Capillary Boundary Condition of Poisson's Equation in Two Dimensions, 华东师范大学学报(自然科学版), 2000, 33: 1-6.
29. 金小刚, 孙方裕, Hirota-Stasuma系统的局部与整体适定性, 系统科学与数学, 1999, 19(4): 501-506.
30. 王伟, 金小刚, 复椭圆边界上的 $S^{\infty}$ 插值集, 浙江大学学报, 1999, 26 (4)

32. 孙方裕, 金小刚, 具有高次强非线性项的发展方程的精确孤波解, 应用数学, 1999, 12(4).
33. 金小刚, 麻希南, 孙方裕, Hirota-Stasuma系统在负指数Soblev空间的适定性, 杭州大学学报, 1998, 10.

会议论文:

1. Y. X. Li, S. B. Wang, M. X. Shi, X. G. Jin}{Urgent epidemic control mechanism for aviation networks, Practical Applications of Intelligent Systems, Proceedings of the 6th International Conference on Intelligent Systems and Knowledge Engineering, AISC 124, pp. 355–360, Shanghai, China, Dec. 15-17, 2011.
2. J. M. Li, X. G. Jin, Modeling wireless sensor network with spatial constrained affinity propagation, Practical Applications of Intelligent Systems, Proceedings of the 6th International Conference on Intelligent Systems and Knowledge Engineering, AISC 124, pp. 615-620, Shanghai, China, Dec. 15-17, 2011.
3. X. C. Su, X. G. Jin, Y. Min, Y. X. Li, Estimating Growth Parameters for the Protein Interaction Network by a Network Comparison Method Based on Breadth-First Search, The Proceedings of ISKE2010, Nov. 15-16, 2010 Hangzhou, China, pp. 344-348.
4. Y. Min, X. G. Jin, B. Gao, J. Chang, Y. Ge, Finding Community Structure in Networks by Gravitation Algorithm, The Proceedings of WMWA2010, Nov. 26-28, 2010 Wuhan, China.
5. G. H. Song, X. G. Jin, G. L. Chen, Multiple Kernel Learning Method for Network Anomaly Detection, The Proceedings of ISKE2010, Nov. 15-16, 2010 Hangzhou, China, pp. 296-299.
6. G. L. Chen, X. G. Jin, J. G. Yang}{Study on Spatial and Temporal Mobility Pattern of Urban Taxi Services, The Proceedings of ISKE2010, Nov. 15-16, 2010 Hangzhou, China, pp. 422-425.
7. J. Xu, B. J. Gu, Y. T. Guo, J. Chang, Y. Ge, Y. Min, X. G. Jin, A Cellular Automata Model for Population Dynamics Simulation of Two Plant Species with Different Life Strategies, The Proceedings of ISKE2010, Nov. 15-16, 2010 Hangzhou, China, , pp. 517-523.
8. Y. X. Li, X. G. Jin, F. S. Kong, J. M. Li, Linking via social similarity: The emergence of community structure in scale-free network, Proceeding of the IEEE Symposium on Web Society 2009, 8.23-24, 2009, Lanzhou, China, 124-128.
9. B. Peng, X. G. Jin, X. C. Su, Y. Min, A Hybrid EEG Pattern Classification Algorithm Based on Hilbert-Huang Transform and Support Vector Machine, Intelligent Decision Making System, ISKE2009, Nov. 24-25, Hasselt, Belgium, P159-166.
10. W. H. Wang, K. Pei, X. G. Jin, Using Hilbert-Huang Transform to characterize intrusions in computer networks, Proceedings of Third International Conference on Natural Computation, 2007, Vol. 5, pp. 749-753.
11. B. Peng, X. G. Jin, X. C. Su, Y. Min, The study on the sEMG signal characteristics of muscular fatigue based on the Hilbert-Huang transform, ICCS 2006, Lecture Notes in Computer Science, 2006, Vol. 3991, 140-147. (SCI, 他引17次)}
12. Y. Min, X. G. Jin, X. C. Su, B. Peng, Empirical analysis of the spatial genetic algorithm on small-world networks, ICCS 2006, Lecture Notes in Computer Science, 2006, Vol. 3993, 1032-1039.(SCI, 他引5次)
13. X. C. Su, X. G. Jin, Y. Min, B. Peng, Study on asymmetric two-lane traffic model based on Cellular Automata, ICCS 2005, Lecture Notes in Computer Science, 2005, Vol. 3514: 599-606.(SCI, 他引4次)
14. X. G. Jin, W. H. Wang, The complexity of linear Cellular Automata over  $Z_m$ , ICNC 2005, Lecture Notes in Computer Science, 2005, Vol. 3610: 1215-1219. (SCI)
15. Y. Min, X. G. Jin, X. C. Su, B. Peng, The only-insertion Indel systems with smaller parameters, Proceedings of DNA11, 2005 Canada 404.

16. M. Yao, Z. W. Jiang, X. G. Jin, W. S. Yi, Research on methodology of document classification based on generalized learning, MIPPR 2005: SAR and Multispectral Image Processing, Vol. 6043, (2005) 2E: 1-7. (EI).

**Books Edited**

1. Deren Chen, Dan Zhang, Honghua Gan, Xiaogang Jin, Shaoyong Xiao, Mathematics for Computing, Tsinghua University Press, 2011, ISBN: 9787302228257.