

Chee Wei Tan

City University of Hong Kong
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- EDUCATION
- ◇ Princeton University, Princeton, NJ
M.A. (2006), Ph.D. in electrical engineering, minor in computer science 2008.
 - ◇ National University of Singapore
B.S. in computer engineering (First Class Honors), 2002.
- APPOINTMENTS
- ◇ Associate Professor of Computer Science, City University of Hong Kong 2015-now
 - ◇ Assistant Professor of Computer Science, City University of Hong Kong 2009-2015
 - ◇ Visiting Faculty, Qualcomm R&D (QRC), California 2011
 - ◇ Postdoctoral Scholar, California Institute of Technology, Pasadena, California 2008-2009
- AWARDS AND HONOR
- ◇ Princeton University Gordon Wu Prize for Excellence
 - ◇ Senior Fellow at Institute for Pure and Applied Mathematics (IPAM) for Program on Science at Extreme Scales
 - ◇ Google Faculty Award 2018
 - ◇ MIT-Amazon Graph Challenge 2018, Honorable Mention
 - ◇ Selected Participant, U.S. National Academy of Engineering China-America Frontiers of Engineering (CAFOE) Symposium, twice selected in 2013 and 2015
 - ◇ IEEE Communications Society Outstanding Young Researcher Award
 - ◇ Caltech Postdoctoral Fellowship
- RESEARCH AREAS
- ◇ Networks and Graph Analytics
 - ◇ Algorithms at interface of Computer Science and Statistics
 - ◇ Artificial Intelligence for Large-Scale Learning
 - ◇ Software Technologies for Large-Scale Computing
 - ◇ Convex Optimization Theory and Applications
- SERVICES
- ◇ Editor, IEEE/ACM Transactions on Networking, 2016 - present
 - ◇ Editor, IEEE Transactions on Communications, 2012 - 2018
 - ◇ Member, Hong Kong OGCIO Cybersecurity Advisory Group
 - ◇ Director, The Julia Robinson Mathematics Festival in Hong Kong
 - ◇ Chapter Chair, IEEE Information Theory Society Hong Kong Chapter, (received the *2015 IT Society Chapter of the Year Award*)
 - ◇ Faculty Coach, Intel Cup Undergraduate Electronic Design Contest - Embedded System Design Invitational Contest, (student teams received the Second Prize in 2018 and 2016, and the Third Prize in 2014)
- RECENT PUBLICATION
- ◇ P. Yu, C. W. Tan and H. Fu, *Averting Cascading Failures in Networked Infrastructures: Poset-constrained Graph Algorithms*, IEEE Journal of Selected Topics in Signal Processing, Vol. 12, No. 4, 2018.

- ◇ C. Li, X. Guang, C. W. Tan and Raymond W. Yeung, *Fundamental Limits on A Class of Secure Asymmetric Multilevel Diversity Coding Systems*, IEEE Journal on Selected Areas in Communications, Vol. 36, No. 4, 2018.
- ◇ C. Kuo, C. N. Hang, P. Yu and C. W. Tan, *Parallel Counting of Triangles in Large Graphs: Pruning and Hierarchical Clustering Algorithms*, IEEE High Performance Extreme Computing Conference MIT-Amazon Graph Challenge (honorable mention), 2018.
- ◇ L. Ling and C. W. Tan, *Human-assisted Computation for Auto-grading*, ICDM Workshop on Machine Learning for Education, 2018.
- ◇ L. Ling and C. W. Tan, *Pilot Study on Optimal Task Scheduling in Learning*, ACM Learning at Scale, 2018.
- ◇ P. Yu, C. W. Tan and H. Fu, *Graph Algorithms for Preventing Cascading Failures in Networks*, Proc. of 52nd CISS, 2018.
- ◇ P. Yu, C. W. Tan and H. Fu, *Rumor Source Detection in Finite Graphs with Boundary Effects by Message Passing Algorithms*, Proc. of IEEE/ACM ASONAM, 2017.
- ◇ P. Yu, C. W. Tan and H. Fu, *Rumor Source Detection in Unicyclic Graphs*, Proc. of IEEE Information Theory Workshop, 2017.
- ◇ L. Zheng, C. Joe-Wong, C. W. Tan, S. Ha, M. Chiang, *Customized Data Plans for Mobile Users: Feasibility and Benefits of Data Trading*, IEEE Journal on Selected Areas in Communications, Vol. 35, No. 4, 2017.
- ◇ C. W. Tan, P. Yu, C. Lai, W. Zhang and H. Fu, *Optimal Detection of Influential Spreaders in Online Social Networks*, Proc. of 50th CISS, 2016.
- ◇ L. Zheng, C. Joe-Wong, C. Brinton, C. W. Tan and M. Chiang, *On the Viability of a Cloud Virtual Service Provider*, Proc. of ACM SIGMETRICS 2016.
- ◇ F. Wong, C. W. Tan, S. Sen and M. Chiang, *Quantifying Political Leaning from Tweets, Retweets and Retweeters*, IEEE Transactions on Knowledge and Data Engineering, Vol. 28, No. 8, 2016.
- ◇ L. Zheng, Y. W. Hong, C. W. Tan, C. L. Hsieh and C. H. Lee, *Wireless Max-min Utility Fairness with General Monotonic Constraints by Perron-Frobenius Theory*, IEEE Transactions on Information Theory, Vol. 62, No. 12, 2016.
- ◇ C. W. Tan, *Optimal Power Control in Rayleigh-fading Heterogeneous Wireless Networks*, IEEE/ACM Transactions on Networking, Vol. 24, No. 2, 2016.
- ◇ C. W. Tan, *Wireless Network Optimization by Perron-Frobenius Theory*, Now Publishers, Foundations and Trends in Networking, Vol. 9, No. 2-3, 2015.
- ◇ L. Zheng, C. Joe-Wong, C. W. Tan, M. Chiang and X. Wang, *How to Bid the Cloud?*, Proc. of ACM SIGCOMM 2015.
- ◇ S. W. Ho, C. W. Tan and R. W. Yeung, *Proving and Disproving Information Inequalities*, IEEE International Symposium on Information Theory, 2014.
- ◇ L. Zheng and C. W. Tan, *A Probabilistic Characterization of the Rumor Graph Boundary in Rumor Source Detection*, Proc. of IEEE Digital Signal Processing, 2015.
- ◇ Z. Wang, W. Dong, W. Zhang and C. W. Tan, *Rooting out Rumor Sources in Online Social Networks: The Value of Diversity from Multiple Observations*, IEEE Journal of Selected Topics in Signal Processing, special issue on signal processing for big data, Vol. 9, No. 4, 2015.
- ◇ Z. Wang, W. Dong, W. Zhang and C. W. Tan, *Rumor Source Detection with Multiple Observations: Fundamental Limits and Algorithms*, Proc. of ACM SIGMETRICS 2014.
- ◇ N. Chen, C. W. Tan and T. Quek, *Electric Vehicle Charging in Smart Grid: Optimality and Valley-Filling Algorithms*, IEEE Journal of Selected Topics in Signal Processing, Vol. 8, No. 6, 2014.

- ◇ L. Zheng and C. W. Tan, *Maximizing Sum Rates in Cognitive Radio Networks: Convex Relaxation and Global Optimization Algorithms*, IEEE Journal on Selected Areas in Communications, Vol. 32, No. 3, 2014.
 - ◇ W. Dong, W. Zhang and C. W. Tan, *Rooting out the Rumor Culprit from Suspects*, Proc. of IEEE Intl. Symp. on Information Theory, 2013.
 - ◇ F. M. F. Wong, C. W. Tan, S. Sen and M. Chiang, *Quantifying Political Leaning from Tweets and Retweets*, Seventh International AAAI Conference on Weblogs and Social Media (ICWSM), 2013.
 - ◇ L. Zheng and C. W. Tan, *Cognitive Radio Network Duality and Algorithms for Utility Maximization*, IEEE Journal on Selected Areas in Communications, Vol. 31, No. 3, 2013.
 - ◇ C. W. Tan, M. Chiang and R. Srikant, *Fast Algorithms and Performance Bounds for Sum Rate Maximization in Wireless Networks*, IEEE/ACM Transactions on Networking, Vol. 21, No. 3, 2013.
 - ◇ C. W. Tan, S. Friedland and S. H. Low, *Nonnegative Matrix Inequalities and Their Application to Nonconvex Power Control Optimization*, SIAM Journal on Matrix Analysis and Applications, Vol. 32, No. 3, 2011.
 - ◇ C. W. Tan, S. Friedland and S. H. Low, *Spectrum Management in Multiuser Cognitive Wireless Networks: Optimality and Algorithm*, IEEE Journal on Selected Areas in Communications, Vol. 29, No. 2, 2011.
 - ◇ Y. Zhao, C. W. Tan, A. S. Avestimehr, S. N. Diggavi and G. J. Pottie, *On the Maximum Achievable Sum-rate with Successive Decoding in Interference Channels*, IEEE Transactions on Information Theory, Vol. 58, No. 6, 2012.
 - ◇ M. Wang, C. W. Tan, W. Xu and A. Tang, *Cost of Not Splitting in Routing: Characterization and Estimation*, IEEE/ACM Transactions on Networking, Vol. 19, No. 6, 2011.
 - ◇ C. W. Tan, D. P. Palomar and M. Chiang, *Energy-Robustness Tradeoff in Cellular Network Power Control*, IEEE/ACM Transactions on Networking, Vol. 17, No. 3, 2009.
 - ◇ C. W. Tan and A. R. Calderbank, *Multiuser Detection of Alamouti Signals*, IEEE Transactions on Communications, Vol. 57, No. 7, 2009.
- BOOK AND MONOGRAPH
- ◇ C. W. Tan and P. Yu, *Network Inference for Cyber Security in Complex Networks*, Springer Publishers, 2018.
 - ◇ C. W. Tan, *Wireless Network Optimization by Perron-Frobenius Theory*, Now Publishers, Foundations and Trends in Networking, Vol. 9, No. 2-3, 2015.
 - ◇ C. W. Tan (Ed.), *Cognitive Radio Networks: Performance, Applications and Technology*, Nova Science Publishers, 2018.
- RECENT TALK AND INVITED TUTORIAL
- ◇ Statistical Inference for Cyber-Security in Networks
IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM) in 2017 and 2014, the International Conference on Acoustics, Speech, and Signal Processing (ICASSP) in 2016.
 - ◇ Network Centrality as Statistical Inference in Large Networks
INFORMS International Conference 2018, University of Notre Dame Workshop on Big Data Challenges for Predictive Modeling of Complex Systems 2018, 2018 Smart Grid Seminar at California Institute of Technology, 2018 Institute for Pure and Applied Mathematics (IPAM) Seminar Series.