

# Chee Wei Tan

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- EDUCATION
- ◇ Princeton University, Princeton, NJ  
Ph.D. in Electrical Engineering, 2008.
  - ◇ Princeton University, Princeton, NJ  
M.A. in Electrical Engineering, 2006.
  - ◇ National University of Singapore  
B.S. in Electrical Engineering (First Class Honors), 2002.
- APPOINTMENT
- ◇ 2015- Associate Professor, Computer Science, City University of Hong Kong
  - ◇ 2009 Assistant Professor, Computer Science, City University of Hong Kong
  - ◇ 2008-2009 Postdoctoral Scholar, California Institute of Technology, Pasadena, CA
- AWARDS AND HONOR
- ◇ Princeton University Gordon Wu Prize for Excellence
  - ◇ Selected Participant, U.S. National Academy of Engineering China-America Frontiers of Engineering (CAFOE) Symposium, twice selected in 2013 and 2015
  - ◇ Caltech Postdoctoral Fellowship
- RESEARCH AREAS
- ◇ Networks and Graph Analytics, Cyber Security and Cloud Computing, Statistical Inference in Data Analytics, Information Theory and Machine Learning, Optimization Theory and Applications, Personalized Learning Technologies
- SERVICES
- ◇ Editor, IEEE/ACM Transactions on Networking, 2016-present
  - ◇ Editor, IEEE Transactions on Communications, 2012-present
  - ◇ 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*)
- RECENT PUBLICATION
- ◇ 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.
  - ◇ 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.
  - ◇ 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.
  - ◇ 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, 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 DSP, 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.
- ◇ 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.

RECENT  
EXTERNAL  
GRANTS (AS  
THE  
PRINCIPAL  
INVESTIGATOR)

- ◇ RGC GRF, *To Prove or To Disprove: Information Inequalities Prover, Computational Algorithms and Cloud Computing Software*, 2015
- ◇ RGC SRFDP & ERG Joint Research Scheme, *Inference of Large Epidemic-like Information Spreading: Theories and Network Forensics*, 2014
- ◇ RGC GRF, *Network Resilience against Cascading Failures in the Internet of Things: Theories, Algorithms and Cyber-Security Protocol Design*, 2014
- ◇ RGC GRF, *Dynamic Optimization of Power Flow and Electric Vehicle Resources in Smart Grid*, 2013
- ◇ RGC GRF, *Adaptive Radio Resource Optimization in Femtocell*, 2012