

# Xiaoying TANG (Used name: Wanrong TANG)

Ecole polytechnique f'ed'erales de Lausanne (EPFL)  
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Date of birth: 1990.06.28

## Education

- **Ecole polytechnique f'ed'erales de Lausanne (EPFL)** Switzerland  
*Scientist/Post-Doc* Oct. 2017-present
  - School of Computer and Communication Sciences, supervised by Prof. Jean-Yves Le Boudec (IEEE Fellow)
  - School of Engineering, co-supervised by Prof. Mario Paolone
- **The Chinese University of Hong Kong (CUHK)** Hong Kong  
*Research Fellow/Post-Doc* Feb. 2016-Aug. 2017
  - Department of Information Engineering, hosted by Prof. Ying-Jun Angela Zhang (IET Fellow)
- **The Chinese University of Hong Kong (CUHK)** Hong Kong  
*Doctor of Philosophy, Information Engineering* Sept. 2011 - Jan. 2016
  - Advisor: Prof. Ying-Jun Angela Zhang (IET Fellow)
- **University of Electronic Science and Technology of China (UESTC)** Chengdu, China  
*Bachelor, Yingcai Honors College (top 120 of 3800)* Sept. 2007 - June 2011
  - UESTC Outstanding Student Nomination (top 2 of 120)
  - Outstanding Graduates Award

## Selected Awards & Honors

- **Best Paper Award** in IEEE International Conference on Smart Grid Communications (SmartGridComm), 2013
- **Student Travel Grant** from IEEE Communication Society, 2013
- **Talent Development Scholarship** from Hong Kong Special Administrative Region Government Scholarship Fund, 2015
- **Best Poster & Presentation** in IE Poster Day, CUHK, 2014
- **Outstanding Teaching Assistant Award**, CUHK, 2015
- **Postgraduate Research Scholarship**, CUHK, 2011 - 2015
- **Meritorious Winner (First Prize)** in Mathematical Contest in Modeling (MCM), administered by The Consortium for Mathematics and Its Applications (COMAP), 2010
- **First Prize** in China Undergraduate Mathematical Contest in Modeling (CUMCM), administered by China Society for industrial and Applied Mathematics (CSIAM), 2009
- **Third Prize** in The Chinese Mathematics Competitions (CMC), administered by Chinese Mathematical Society (CMS), Sichuan Province, 2009

## Research Interest

- Online algorithm, scheduling algorithm and distributed algorithm design and optimization in network systems, including smart grid and intelligent transportation network
- Fundamental research in optimization theory, machine learning and theoretical computer science

## Publications

- Book

- **W. Tang** and Y. J. Zhang, *Optimal Charging Control of Electric Vehicles in Smart Grids*, Springer Briefs (Series Editor: Xuemin Sherman Shen), Springer, 2017 (ISBN: 9783319458618, Page Number: XI, 106)

- Journal

- **W. Tang**, S. Bi, and Y. J. Zhang, “Distributed routing and charging scheduling optimization for internet of electric vehicles,” *IEEE Internet of Things Journal*, accepted, 2018
- **W. Tang** and Y. J. Zhang, “A model predictive control approach for low-complexity electric vehicle charging scheduling: optimality and scalability,” *IEEE Transactions on Power System*, vol. 32, no. 2, pp. 1050-1063, Mar. 2017
- **W. Tang**, S. Bi, and Y. J. Zhang, “Online charging scheduling algorithms of electric vehicles in smart grid: an overview,” *IEEE Communication Magazine*, vol. 54, no. 12, pp. 76-83, Dec. 2016
- **W. Tang**, S. Bi, and Y. J. Zhang, “Online coordinated charging decision algorithm for electric vehicles without future information,” *IEEE Transactions on Smart Grid*, vol. 5, no. 6, pp. 2810-2824, Nov. 2014
- Y. J. Zhang, C. Zhao, **W. Tang**, and S. H. Low, “Profit maximizing planning and control of battery energy storage systems for primary frequency control,” *IEEE Transactions on Smart Grid*, vol. 9, no. 2, pp. 712-723, Mar. 2018
- Q. Tang, J. Hu, Y. Li, and **W. Tang**, “The probabilistic model for CMOS digital circuits in low supply voltage,” *Signal Processing*, vol. 28, no.1, 2012
- **X. Tang**, S. Bi, and Y. J. Zhang, “Energy management and optimization in Internet of Electric Vehicles (IoEV),” *IEEE Communication Magazine*, under review
- T. Wu, Y. J. Zhang, and **X. Tang**, “A VSC-based BESS model for multi-objective OPF using mixed integer SOCP,” *IEEE Transactions on Power System*, under review
- T. Wu, Y. J. Zhang, and **X. Tang**, “Online detection of low-quality synchrophasor measurements and early events based on isolation forest,” *IEEE Transactions on Power System*, under review
- J. Zhou, C. Lu, Y. Tian, and **X. Tang**, “A SOCP relaxation based branch-and-bound method for generalized trust-region subproblem,” *Journal of Industrial and Management Optimization*, under review
- **X. Tang**, J. Le Boudec, and M. Paolone, “Routing of CO2 emission in power grid,” prepare to submit

- Conference

- **W. Tang**, S. Bi, and Y. J. Zhang, “Online Speeding Optimal Charging Algorithm for Electric Vehicles without Future Information,” *IEEE International Conference on Smart Grid Communications (SmartGridComm)*, Oct. 2013, Vancouver, Canada (**Best Paper Award**)
- **W. Tang** and Y. J. Zhang, “Online Electric Vehicle Charging Control with Multistage Stochastic Programming,” *IEEE 48<sup>th</sup> Annual Conference on Information Sciences and Systems (CISS)*, Mar. 2014, Princeton University, USA (**Invited Paper**)
- **W. Tang** and Y. J. Zhang, “Optimal Battery Energy Storage System Control in Microgrid with Renewable Energy Generation,” *IEEE International Conference on Smart Grid Communications (SmartGridComm)*, Nov. 2015, Miami, USA

- **W. Tang**, S. Bi, Y. J. Zhang, and Xiaojun Yuan, “Joint Routing and Charging Scheduling Optimizations for Smart-grid Enabled Electric Vehicle Networks,” to appear, *IEEE 85<sup>th</sup> Vehicular Technology Conference (VTC)*, June 2017, Sydney, Australia (**Invited Paper**)
- Y. J. Zhang, C. Zhao, **W. Tang**, and S. H. Low, “Optimal Control of Battery Energy Storage System for Primary Frequency Control,” **Invited Session** of *IEEE 50<sup>th</sup> Annual Conference on Information Sciences and Systems (CISS)*, Mar. 2016, Princeton University, USA
- T. Wu, Y. J. Zhang, and **X. Tang**, “Isolation forest based method for low-quality synchrophasor measurements and early events detection,” *IEEE International Conference on Smart Grid Communications (SmartGridComm) 2018*, Oct. 2018, Aalborg, Denmark

## Professional Activities

- Technical Program Committee Co-Chair of IEEE International Conference on Communications (ICC) 2019 Workshop on Integrating Communications, Control, and Computing Technologies for Smart Grid
- Technical Program Committee Member
  - IEEE Power Systems Computation Conference (PSCC) 2018
  - IEEE International Conference on Smart Grid Communications (SmartGridComm) 2015-2016
  - International Conference on Mechanics & Applied Physics (ICMAPH) 2015
- Reviewers (selected)
  - IEEE Transactions on Industrial Informatics, 2017-present
  - IEEE Transactions on Smart Grid, 2015-present
  - IEEE Smart Grid Communications (SmartGridComm), 2014-2016
  - IEEE Global Communications Conference (GLOBECOM) 2013
  - IEEE International Conference on Communications (ICC) 2013
- Student Volunteers (selected)
  - ACM Special Interest Group on Data Communication (ACM SIGCOMM), 2013, Hong Kong
  - IEEE International Conference on Computer Communications (IEEE INFOCOM), 2015, Hong Kong

## Teaching

- Teaching Assistant of Information Engineering Department, CUHK, Sept. 2011 - Present
  - ENGG 2030: Signals and Systems, Sept. 2011 - Dec. 2011
  - ENGG 2013: Advanced Engineering Mathematics (Syllabus C), Jan. 2012 - May 2012
  - IERG 3831 & IERG 3841: Networking Lab. I & II, Sept. 2012 - Dec. 2012
  - IERG 3831 & IERG 3841: Networking Lab. I & II, Jan. 2013 - May 2013
  - ENGG 5303: Advanced Wireless Communications, Sept. 2013 - Dec. 2013
  - ENGG 2520E: Engineering Physics II, Jan. 2014 - May 2014
  - IERG 3050: Simulation and Statistical Analysis (**Outstanding Teaching Assistant Award**), Sept. 2014 - Dec. 2014
  - IERG 3830: Product Design Project, Jan. 2015 - May 2015

- IEMS 5701: Advanced Wireless Communications, Sept. 2016 - Dec. 2016
- Instructor Assistant of Yingcai Honors College, UESTC, Sept. 2008 - Nov. 2008

## **Computer Skills**

- Languages
  - C/C++, Matlab, Python, VHDL, Verilog
- Operating Systems
  - Windows, Linux, Mac OSX.