Qing **Yang**

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Interests

Research Blockchain technology, intelligent energy, and wireless/optical networking.
I prefer system implementation than mathematical modeling.

Personal Playing soccer (MF or CB), graphic design

Education

The Chinese University of Hong Kong (CUHK) *Hong Kong*
Ph.D. in Information Engineering *2010/08 - 2015/04*

▶ Supervisor: Prof. Soung C. Liew (FIEEE, FIEE, FHKIE)
▶ Thesis title: Wireless Communication by Exploiting Multi-User Interference

Huazhong University of Science and Technology (HUST) *Wuhan, China*
B.E. in Electronics and Information Engineering (Advanced Class) *2006/09 - 2010/06*

Experience

Shenzhen University *Shenzhen, China*
assistant professor (tenure track) *2018/07 - Present*

▶ Research area: blockchain technology, distributed smart energy, wireless networking
▶ Principal researcher at the Blockchain Technology Research Center (BTRC)
▶ Courses: communication network and technology, computer system architecture

USEChain Co., Ltd. *Shenzhen, China*
blockchain system architect *2017/08 - 2018/06*

▶ Lead the development team to build a public blockchain system
▶ Design and implement the DPoS consensus algorithm

P2 Wireless Technologies Co., Ltd. *Hong Kong*
chief scientist *2016/04 - 2017/08*

▶ Design and develop the industrial outdoor wireless mesh devices using WiFi chips
▶ Research on new physical-layer protocols for long-range wireless mesh networks

Alcatel-Lucent Shanghai Bell Co., Ltd. *Shanghai, China*
research scientist *2015/11 - 2016/04*

▶ Build the basestation prototype and simulator for 5G L1/L2 system
▶ Physical-layer protocol design and optimization for ultra-dense network

Institute of Network Coding, CUHK *Hong Kong*
postdoctoral research fellow *2015/04 - 2015/10*

▶ Mentor: Prof. Soung C. Liew
▶ Research topic: physical-layer network coding and its implementation on software-defined radio

Microsoft Research Asia (MSRA) *Beijing, China*
research intern (Wireless and Networking Research Group) *2012/10 - 2013/02*

▶ Mentor: Dr. Kun Tan (Chief architect and director of Network Virtualization Lab at Huawei)
▶ Output: BigStation, a large-scale multiuser MIMO system (published in SIGCOMM'13)

Skills

Software radio	**USRP/SORA**	Finished 3 projects on USRP, 1 project on SORA
Coding	**C/C++**	2 years' experience in in mix-programming of Python and C++
	Go/Rust	3 year's experience of blockchain development with Go and Rust
	HDL	Experienced in developing SoC using Verilog on Xilinx FPGA
	Matlab	Competent in using Matlab for algorithm design and simulation
Language	**ENG**	TOEFL ibt 100/120 (Reading 28, listening 28, speaking 19, writing 25)
	JPN	JLPT N1 Certificated (Top level of the Japanese-language proficiency test)

Teaching

[ECON5004S] Blockchain and Crypto-Currency   *Instructor*
For graduate students from WeBank Institute of FinTech   *2nd Semester 2021*

[2801000072] Computer Organization and Architecture   *Instructor*
For sophomore students in the Wenhua Honored Class   *2nd Semester 2022*

[2801000052] General Introduction to Electronic and Information Engineering   *Instructor*
For freshmen from College of Electronic and Information Engineering   *1st Semester 2021*

[2801000003] An introduction to Electronics and Information Engineering   *Instructor*
For sophomore students from College of Electronic and Information Engineering   *1st Semester 2020*

[1301260001] Lecture on World Frontier Science and Technology   *Instructor*
For junior students from College of Electronic and Information Engineering   *2nd Semester 2019*

[1300420001] English for Electronic and Communication Engineering   *Instructor*
For junior students from College of Electronic and Information Engineering   *2nd Semester 2019*

[1302080001] Modern Communication Technology   *Instructor*
For junior students from College of Electronic and Information Engineering   *2nd Semester 2019*

Services

Reviewed papers for the following journals
▸ IEEE Transaction on Industrial Informatics
▸ IEEE Internet of Things Journal
▸ IEEE Transactions on Mobile Computing
▸ IEEE Transactions on Wireless Communications
▸ IEEE Transactions on Vehicular Technology
▸ IEEE Internet of Things Magazine
▸ Applied Energy
▸ Energy Reports
▸ OSA Optics Express

Reviewed papers for the following conferences
▸ IEEE International Conference on Communications (ICC)
▸ IEEE Global Communications Conference (Globecom)
▸ IEEE SmartGridComm
▸ IEEE Infocom
▸ Optical Fiber Communication Conference (OFC)

Publication

▼ Journal Papers

[J1] **Q. Yang**, H. Wang*, X. Wu, T. Wang, S. Zhang, N. Liu, "Secure Blockchain Platform for Industrial IoT with Trusted Computing Hardware", *IEEE Internet of Things Magazine*, Accepted for publication.

[J2] **Q. Yang**, H. Wang*, "Blockchain-Empowered Socially Optimal Transactive Energy System: Framework and Implementation", *IEEE Transaction on Industrial Informatics*, 2021.

[J3] **Q. Yang**, H. Wang*, "Privacy-Preserving Transactive Energy Management for IoT-aided Smart Homes via Blockchain", *IEEE Internet of Things Journal*, 2021.

[J4] T. Wang, C. Zhao, **Q. Yang**, S. Zhang*, S.C. Liew, "Ethna: Analyzing the Underlying Peer-to-Peer Network of Ethereum Blockchain", *IEEE Transactions on Network Science and Engineering*, 2021.

[J5] **Q. Yang**, H. Wang*, T. Wang, S. Zhang, X. Wu, H. Wang, "Blockchain-Based Decentralized Energy Management Platform for Residential Distributed Energy Resources in a Virtual Power Plant", *Applied Energy*, 2021.

[J6] **Q. Yang**, H. Wang*, "Distributed Energy Trading Management for Renewable Prosumers with HVAC and Energy Storage", *Energy Reports*, 2021.

[J7] X. Guan, **Q. Yang***, and Calvin Chun-Kit Chan, "Phase-Aligned Physical Layer Network Coding in Visible Light Communications", *IEEE Photonics Journal*, 2019.

[J8] M. Xie, T.M. Lok, **Q. Yang***, "User Association and Scheduling Based on Auction in Multi-Cell MU-MIMO Systems", *IEEE Transactions on Wireless Communications*, 2018.

[J9] **Q. Yang**, S. C. Liew, L. Lu*, Y. Shao, "Symbol Misalignment Estimation in Asynchronous Physical-Layer Network Coding", *IEEE Transactions on Vehicular Technology*, 2017.

[J10] T. Wang, **Q. Yang***, K. Tan, J. Zhang, S. C. Liew, S. Zhang, "DCAP: Improving the Capacity of WiFi Networks with Distributed Cooperative Access Points", *IEEE Transactions on Mobile Computing*, 2017.

[J11] X. Guan, **Q. Yang***, and Calvin C.K. Chan, "Joint Detection of Visible Light Communication Signals Under Non-Orthogonal Multiple Access", *IEEE Photonics Technology Letters*, 2017.

[J12] X. Guan, **Q. Yang***, Y. Hong, and Calvin Chun-Kit Chan, "Non-orthogonal Multiple Access with Phase Predistortion in Visible Light Communication", *Optics Express*, 2016.

[J13] **Q. Yang**, S. C. Liew*, "Asynchronous Convolutional-Coded Physical-Layer Network Coding", *IEEE Transactions on Wireless Communications*, 2015.

[J14] **Q. Yang**, X. Li, H. Yao, J. Fang, K. Tan, W. Hu, J. Zhang, Y. Zhang, "BigStation: Enabling Scalable Real-Time Signal Processing in Large MU-MIMO Systems", *ACM Computer Communication Review (ACM CCR)*, 2013.

▼ Conference Papers

[C1] **Q. Yang**, H. Wang, X. Wu, T. Wang, S. Zhang, "Blockchain for Transactive Energy Management of Distributed Energy Resources in Smart Grid", *ACM International Conference on Future Energy Systems*, 2021.

[C2] **Q. Yang**, H. Wang, "Exploring Blockchain for The Coordination of Distributed Energy Resources", *IEEE Annual Conference on Information Sciences and Systems (CISS '21)*, 2021.

[C3] **Q. Yang**, H. Wang, "Cooperative Energy Management of HVAC via Transactive Energy", *IEEE International Conference on Control & Automation (ICCA '21)*, 2020.

[C4] X. Guan, Y. Hong, **Q. Yang**, C. K. Chan, "Phase Pre-Distortion for Non-Orthogonal Multiple Access in Visible Light Communications", *OSA/IEEE OFC '16*, 2016.

[C5] **Q. Yang**, H. Wang, T. Wang, L. You, L. Lu and S. C. Liew, "Powerline-PNC: Boosting Throughput of Powerline Networks with Physical-Layer Network Coding", *IEEE SmartGridComm '15*, 2015.

[C6] **Q. Yang**, S. C. Liew, "Optimal Decoding of Convolutional-Coded Physical-Layer Network Coding", *IEEE Wireless Communications and Networking Conference (WCNC '14)*, 2014.

[C7] **Q. Yang**, X. Li, H. Yao, J. Fang, K. Tan, W. Hu, J. Zhang, Y. Zhang, "BigStation: Enabling Scalable Real-Time Signal Processing in Large MU-MIMO Systems", *ACM SIGCOMM '13*, Aug. 2013.

[C8] L. Lu, L. You, **Q. Yang**, T. Wang, M. Zhang, S. Zhang, S. C. Liew, "Real-Time Implementation of Physical-Layer Network Coding", *ACM Workshop on Software Radio Implementation Forum (ACM SRIF '13)*, Aug. 2013.