Qing **Yang**

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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*

> Research topic: physical-layer network coding and its implementation on software-defined radio

Microsoft Research Asia (MSRA)   *Beijing, China*

Research intern in 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)

Publication

Journal

[J1] **Q. Yang**, H. Wang, "Blockchain-Empowered Socially Optimal Transactive Energy System: Framework and Implementation", *IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS*, May. 2021.

[J2] **Q. Yang**, H. Wang, "Privacy-Preserving Transactive Energy Management for IoT-aided Smart Homes via Blockchain", *IEEE Internet of Things Journal*, Jan. 2021.

[J3] **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.

[J4] **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*, Jul. 2021.

[J5] **Q. Yang**, H. Wang, "Distributed energy trading management for renewable prosumers with HVAC and energy storage", *Energy Reports*, May. 2021.

[J6] **Q. Yang**, S. C. Liew, "Asynchronous Convolutional-Coded Physical-Layer Network Coding", *IEEE Trans. Wireless Commun.*, Oct. 2014.

[J7] **Q. Yang**, S. C. Liew, L. Lu, Y. Shao, "Symbol Misalignment Estimation in Asynchronous Physical-Layer Network Coding", *IEEE Trans. Veh. Technol.*, Jun. 2016.

[J8] **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)*, Oct. 2013.

[J9] 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 Trans. Mobile Comput.*, May. 2017.

[J10] 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*, Jun. 2018.

[J11] X. Guan, **Q. Yang***, Y. Hong, and Calvin Chun-Kit Chan, "Non-orthogonal Multiple Access with Phase Predistortion in Visible Light Communication", *Optics Express*, Oct. 2016.

[J12] X. Guan, **Q. Yang***, and Calvin Chun-Kit Chan, "Joint Detection of Visible Light Communication Signals Under Non-Orthogonal Multiple Access", *IEEE Photon. Technol. Lett.*, Jan. 2017.

[J13] X. Guan, **Q. Yang***, and Calvin Chun-Kit Chan, "Phase-Aligned Physical Layer Network Coding in Visible Light Communications", *IEEE PHOTONICS JOURNAL*, Apr. 2019.

Conference

[C1] **Q. Yang**, H. Wang, X. Wu, T. Wang, S. Zhang, "Blockchain for Transactive Energy Management of Distributed Energy Resources in Smart Grid", *ACM SIGEnergy e-Energy Conference*, Jun. 2021.

[C2] **Q. Yang**, H. Wang, "Cooperative energy management of HVAC via transactive energy", *IEEE International Conference on Control & Automation (ICCA)*, Oct. 2020.

[C3] **Q. Yang**, H. Wang, "Exploring blockchain for the coordination of distributed energy resources", *IEEE Annual Conference on Information Sciences and Systems (CISS)*, Mar. 2021.

[C4] **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*, Aug. 2013.

[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*, Nov. 2015.

[C6] **Q. Yang**, S. C. Liew, "Optimal Decoding of Convolutional-Coded Physical-Layer Network Coding", *IEEE WCNC*, Apr. 2014.

[C7] X. Guan, Y. Hong, **Q. Yang**, C. K. Chan, "Phase Pre-Distortion for Non-Orthogonal Multiple Access in Visible Light Communications", *OSA/IEEE OFC*, March. 2016.

[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 the second workshop on software radio implementation forum (ACM SRIF)*, Aug. 2013.