**Faculty Profile: Hang Liu**

Professor

Department: Electrical Engineering and Computer Science

School: School of Engineering

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Education: Ph.D., Electrical Engineering, University of Pennsylvania, 1997

**Research Interests and Expertise:**

wireless communications and networking, millimeter wave communication, massive MIMO, dynamic spectrum management, Internet of Things, mobile computing, Internet architecture and protocols, information-centric networking, software-defined networks, mobile content distribution, video streaming, multimedia communication, and network security.

**Biography:**

Hang Liu joined the Catholic University of America in 2013 where he currently is a professor in the Department of Electrical Engineering and Computer Science. Prior to joining Catholic University, he had more than 10 years of research experience in networking industry and worked in senior research and management positions at several companies, including InterDigital Communications, Inc., Thomson (now Technicolor) Corporate Research Lab, and NEC Laboratories America. He was an adjunct professor of WINLAB, the ECE Dept., Rutgers University from 2004 to 2012. Dr. Liu has published more than 100 papers in leading journals and conferences, and received two best paper awards and one best student paper award. He is the inventor/co-inventor of over 50 granted US patents. He has also made many contributions to the IEEE 802 wireless standards and 3GPP standards, and was the editor of the IEEE 802.11aa standard and the rapporteur of a 3GPP work item.

**Five Selected Papers:**

1. L. Hsieh, H. Liu, Y. Guo, R. Gazda, “Task Management for Cooperative Mobile Edge Computing,” *5th ACM/IEEE Symposium on Edge Computing (SEC) HotWoT Workshop*, Nov. 2020.
2. X. Chen, Z. Zhao, C. Wu, M. Bennis, H. Liu, Y. Ji, and H. Zhang, “Multi-Tenant Cross-Slice Resource Orchestration: A Deep Reinforcement Learning Approach*,” IEEE Journal on Selected Areas in Communications* (JSAC), vol. 37, no. 10, pp. 2377 – 2392, Oct. 2019.
3. X. Chen, P. Liu, H. Liu, C. Wu, Y. Ji, “Multipath Transmission Scheduling in Millimeter Wave Cloud Radio Access Networks,” *IEEE ICC’18*, May 2018.
4. C. Hu, A. Alhothaily, A. Alrawais, X. Chen, C. Sturtivant, and H. Liu, “A Secure and Verifiable Outsourcing Scheme for Matrix Inverse Computation,” *IEEE INFOCOM’17*, May 2017.
5. S. Hua, H. Liu, M. Wu, S. Panwar, “Exploiting MIMO Antennas in Cooperative Cognitive Radio Networks,” *IEEE INFOCOM’11*, April 2011.

**Professional Activities (please also include STEM education/diversity/outreach activities)**

* Contributor of the IEEE 802 and 3GPP standards, including IEEE 802.11s, 802.16h, 802.22, 3GPP SA4. Many proposals have been adopted by these standards.
* IEEE Standards Association Recognition Award for Outstanding Contributions to the Development of IEEE 802.11aa Standard, 2012.
* Editor of IEEE 802.11aa standard, 2008-2010
* Rapporteur of 3GPP SA4 work item, 2011-2012
* Associate Editor of IEEE Transactions on Mobile Computing, 2017-present
* Associate Editor of IEEE Internet of Things Journal, 2020-present
* Steering Committee Member of NSF Research Coordination Network (RCN) on Millimeter Wave Wireless Research, 2016-2020