Curriculum Vitae

1. Personal Information

First Name:	Shaohua
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2. Professional Experience

Associate Professor, *Dept. of Communication Engineering*, Xiamen University, Aug. 2013 – present.

Visiting Scholar, *School of Electrical and Electronic Engineering, Newcastle University, Nov. 2014-Nov. 2015.*

Assistant Professor, *Dept. of Communication Engineering*, Xiamen University, Jul., 2010- Jul. 2013.

3. Education Experience

Ph.D on Electronics Science and Technology, *Dept. of Information Science & Electronic Engineering*, Zhejiang University, Sept., 2005-June, 2010.

BS on Electronics and Information Engineering, *Dept. of Information Science & Electronic Engineering*, Zhejiang University, Sept., 2001-June, 2005.

4. Academic and Technological Achievements

A. Journal Papers

[1] Qiwang Chen, Lin Wang, **Shaohua Hong**, and Zixiang Xiong, "Performance improvement of JSCC scheme through redesigning channel code," *IEEE Communication Letters*, vol. 20, no. 6, pp.1088-1091, Jun. 2016.

[2] Jing Lu, **Shaohua Hong**, Yibo Lv, and Lin Wang, "Hardware implementation of a joint source-channel decoder based on protograph LDPC codes," *Journal of Chongqing University of Posts and Telecommunications (Natural Science*

Edition), vol. 27, no. 6, pp.775-780, Dec. 2015

[3] Huihui Wu, Lin Wang, **Shaohua Hong**, and Jiguang He, "Performance of joint source-channel coding based on protograph LDPC codes over Rayleigh fading channels," *IEEE Communication Letters*, vol.18, no.4, pp.652-655, Apr. 2014.

[4] Yujie Gu, Nathan A. Goodman, **Shaohua Hong**, and Yu Li, "Robust adaptive beamforming based on interference covariance matrix sparse reconstruction," *Signal Processing*, vol. 96, Issue Part B, pp.375-381, 2014.

[5] Zhiguo Shi, Yongkang Liu, **Shaohua Hong**, Jiming Chen, and Xuemin Shen, "POSE: design of hardware friendly particle-based observation selection PHD filter," *IEEE Trans. Industrial Electronics*, vol. 61, no. 4, pp. 1944-1956, Apr. 2014.

[6] Jian Zhou, Yibo Lv, **Shaohua Hong**, and Lin Wang, "Protograph-based LDPC decoder applied to magnetic recording channel," *Journal of Chongqing University of Posts and Telecommunications (Natural Science Edition)*, vol. 25, no. 6, pp. 788-794, Dec. 2013 (in Chinese).

[7] Yunmei Zhen, Zhiguo Shi, Rongxing Lu, **Shaohua Hong**, and Xuemin Shen, "An efficient data-driven particle PHD filter for multi-target tracking," *IEEE Trans. Industrial Informatics*, vol. 9, no. 4, pp. 2318-2326, Nov. 2013.

[8] **Shaohua Hong**, Zhiguo Shi, Lin Wang, Yujie Gu, and Kangsheng Chen, "Adaptive regularized particle filter for synchronization of chaotic Colpitts circuits in an AWGN channel," *Circuits, Systems, and Signal Processing*, vol. 32, no. 2, pp. 825-841, Apr. 2013.

[9] **Shaohua Hong**, Lin Wang, Trieu-Kien. Truong, Tsung-Ching Lin, and Lung-Jen Wang, "Novel approaches to the parametric cubic-spline interpolation," *IEEE Trans. Image Processing*, vol. 22, no. 3, pp. 1233-1241, Mar. 2013.

[10] **Shaohua Hong**, Lin Wang, Zhiguo Shi, and Kangsheng Chen, "Simplified particle PHD filter for multiple-target tracking: algorithm and architecture," *Progress in Electromagnetics Research*, vol. 120, pp. 481-498, 2011.

[11] **Shaohua Hong**, Zhiguo Shi, Kangsheng Chen, "Easy-hardware-implementation MMPF for maneuvering target tracking: algorithm and architecture," *Journal of Signal Processing Systems*, vol. 61, no. 3, pp. 258-269, Dec. 2010.

[12] **Shaohua Hong**, Zhiguo Shi, Jiming Chen, and Kangsheng Chen, "A low-power memory-efficient Resampling architecture for particle filters," *Circuits, Systems, and Signal Processing*, vol. 29, no. 1, pp. 155-167, Feb. 2010.

[13] JunFeng Chen, Zhiguo Shi, **Shaohua Hong**, Kangsheng Chen, "Grey prediction based particle filter for maneuvering target tracking," *Progress in Electromagnetics Research*, vol. 93, pp. 237-254, 2009.

[14] **Shaohua Hong**, Zhiguo Shi, and Kangsheng Chen, "Simplified algorithm and hardware implementation for particle filter applied to bearings-only tracking," *Journal of Electronics & Information Technology*, vol. 31, no. 1, pp. 96-100, 2009 (in Chinese).

[15] **Shaohua Hong**, Zhiguo Shi, and Kangsheng Chen, "EKF-based dual synchronization of chaotic Colpitts circuit and Chua's circuit," *KYBERNETIKA*, vol. 44, no. 4, pp. 482-491, 2008.

[16] **Shaohua Hong**, Zhiguo Shi, and Kangsheng Chen, "Novel roughening algorithm and hardware architecture for bearings-only tracking using particle filter," *Journal of Electromagnetic Waves and Applications*, vol. 22, no. 2-3, pp. 411-422, 2008.

[17] Zhiguo Shi, **Shaohua Hong**, and Kangsheng Chen, "Experimental study on tracking the state of analog Chua's circuit with particle filter for chaos synchronization," *Physics Letters A*, vol. 372, no. 34, pp. 5575-5580, Aug. 2008.

[18] Zhiguo Shi, **Shaohua Hong**, Jiming Chen, Kangsheng Chen, and Youxian Sun, "Particle filter-based synchronization of chaotic Colpitts circuits combating AWGN channel distortion," *Circuits, Systems, and Signal Processing*, vol. 27, no. 6, pp. 833-845, Dec. 2008.

[19] Zhiguo Shi, **Shaohua Hong**, and Kangsheng Chen, "Tracking airborne targets hidden in blind Doppler using current statistical model particle filter," *Progress in Electromagnetics Research*, vol. 82, pp. 227-240, 2008.

[20] Wang Ren, JunYong Deng, **Shaohua Hong**, and Kangsheng Chen, "Design of dual-band circularly polarized annular slot antenna for wireless local area network applications," *Journal of Zhejiang University (Engineering Science)*, vol. 72, no. 8, pp. 1306-1309/1315, 2008 (in Chinese).

B. Conference Papers (only international)

[1] **Shaohua Hong**, Xinyuan Yu, Qiwang Chen, and Lin Wang, "Improved nonlinear resolution enhancement based on Laplacian Pyramid," *ISCIT 2016/IEEE*, 26-28th, Sep., 2016, Qingdao, China.

[2] Qiwang Chen, Lin Wang, and **Shaohua Hong**, "An image pre-processing approach for JSCC scheme based on double protograph LDPC codes," *ISCIT 2016/IEEE*, 26-28th, Sep., 2016, Qingdao, China.

[3] Lin Wang, Huihui Wu, and **Shaohua Hong**, "The sensitivity of joint source-channel coding based on double protograph LDPC codes to source statistics," *Proc. ISMICT 2015/IEEE*, 24-26th, Mar. 2015, Kamakura, Japan.

[4] Silin Zhu, **Shaohua Hong**, and Lin Wang, "An improved nonlinear image enhancement algorithm," *ISCIT 2014/IEEE*, 24-26th, Sep., 2014, Incheon, Korea.

[5] Jianxing Jiang, **Shaohua Hong**, Trieu-Kien Truong, and Lin Wang, "Adaptive image coding based on cubic-spline interpolation," *SPIE Optical Engineering + Applications*, 17-21th, Aug. 2014, San Diego, USA.

[6] Liangliang Xu, Lin Wang, **Shaohua Hong**, and Huihui Wu, "New results on radiography image transmission with unequal error protection ssing protograph double LDPC codes", *Proc.ISMICT2014 /IEEE*, 2-4th, Apr. 2014, Florence, Italy.

[7] Jianxing Jiang, **Shaohua Hong**, and Lin Wang, "A space-variant cubic-spline interpolation," *European Signal Processing Conference (EUSIPCO)*, 9-13th, Sep. 2013, Marrakech, Morocco.

[8] Tsung-Ching Lin, **Shaohua Hong**, Trieu-Kien. Truong, and Lin Wang, "An improved approach to the cubic-spline interpolation," *SPIE Optical Engineering + Applications*, 25-29th, Aug. 2013, San Diego, USA.

[9] **Shaohua Hong**, Jianxing Jiang, and Lin Wang, "Improved residual resampling algorithm and hardware implementation for particle filters" *WCSP 2012/IEEE*, 25-27th, Oct. 2012, Huangshan, China.

[10] **Shaohua Hong**, and Lin Wang, "Improved roughening algorithm and hardware implementation for particle filter applied to bearings-only tracking," *ISCIT 2011/IEEE*, 12-14th, Oct., 2011, pp, 228-232, Hangzhou, China.

[11] Yi Fang, **Shaohua Hong**, and Lin Wang, "A novel MIMO relay FM-DCSK UWB system for low-rate and low-power WPAN applications," *ISCIT2011/IEEE*, 12-14th, Oct., 2011, pp. 159-162, Hangzhou, China.

[12] **Shaohua Hong**, Zhiguo Shi, Kangsheng Chen, "Easy-hardware-implementation MMPF for maneuvering target tracking," *WCSP 2009*, 13-15th, Nov. 2009, pp. 1-5, Nanjing, China.

[13] Mengjun Jin, **Shaohua Hong**, Zhiguo Shi, and Kangsheng Chen, "Current statistical model probability hypothesis density filter for multiple maneuvering targets tracking," *WCSP 2009*, 13-15th, Nov. 2009, pp.1-5, Nanjing, China.

[14] **Shaohua Hong**, Zhiguo Shi, and Kangsheng Chen, "Novel multiple-model probability hypothesis density filter for multiple maneuvering targets tracking," *PrimeAsia 2009*, 19-21th, Jan. 2009, pp.189-192, Shanghai, China.

[15] **Shaohua Hong**, Zhiguo Shi, and Kangsheng Chen, "Compact Resampling algorithm and hardware architecture for particle filters," *ICCCAS 2008*, 25-27th, May, 2008, pp. 886-890, Xiamen, China.

C. Book

[1] Zhiguo Shi, **Shaohua Hong**, and Kangsheng Chen, "Xilinx FPGA-based OFDM Communication System Design," *Zhejiang University Press*, 2009.

D. Research Interests

Joint source and channel coding, Distributed source coding, Image compression and processing, and Non-linear signal processing

E. Editorship

Editor, KSII Transaction on Internet and Information Systems, Jul. 2015-Present

F. Research Projects

[1] National Science Foundation of China (No. 61671395, 2017.1-2020.12): *The Key Techniques of Communication System based on Chaotic Spatial Modulation Ultra-Wide Band Under Multiple Relay Transmission Model* (PI: Prof. Lin Wang)

[2] National Science Foundation of Fujian Province of China (No. 2014J01248, 2014.1-2016.12): *Algorithm and Hardware Implementation of High-performance and Low-complexity Cubic Spline Interpolation* (PI: Dr. **Shaohua Hong**)

[3] National Science Foundation of China (No.61271241, 2013.1-2016.12): *The Physical-layer Key Techniques for Medical Image Transmissions Based on UWB System* (PI: Prof. Lin Wang)

[4] National Science Foundation of China (No.61102134, 2012.1-2014.12): *Optimized Quantization and Non-linear Enhancement for DCT-based Image Codec Embedded Cubic Spline Interpolation* (PI：Dr. **Shaohua Hong**)

[5] European Union-FP7 (No.294923, 2012.4-2016.4): *Cognitive Network Enabled Transnational Proactive Healthcare* (*CoNHealth*) (CPI: Prof. Lin Wang)

[6] Shenzhen City Science and Technology Project (JC201006030862A, 2011.3-2014.3): *Key Technology on Traffic Measure Systems Based on Chaotic UWB Pulse* (PI: Prof. Lin Wang)