

PROMOTION RECOMMENDATION
University of Michigan-Dearborn
College of Engineering and Computer Science

Weidong Xiang, associate professor of electrical and computer engineering, with tenure, Department of Electrical and Computer Engineering, College of Engineering and Computer Science, is recommended for promotion to professor of electrical and computer engineering, with tenure, Department of Electrical and Computer Engineering, College of Engineering and Computer Science.

Academic Degrees:

Ph.D.	2000	Electrical Engineering, Tsinghua University, Beijing, China
M.S.	1996	Electrical Engineering, Tsinghua University, Beijing, China
B.S.	1988	Electrical Engineering, University of Electronic Science and Technology of China, Chengdu, China

Professional Record:

2010 – present	Associate Professor, Department of Electrical and Computer Engineering
2004 – 2010	Assistant Professor, Department of Electrical and Computer Engineering
1999 – 2004	Research Scientist/Post-doctoral Research Fellow, Department of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA

Summary of Evaluation:

Teaching: Professor Xiang's teaching was rated as significantly capable. He is currently supervising two Ph.D. students and numerous master's students and has supervised numerous capstone design projects since his last promotion. Professor Xiang developed and taught a new doctoral level course, ECE 670, and has significantly revised ECE 5701. Since his last promotion, he has taught five different doctoral level, master's level, and undergraduate courses and improved his teaching consistently.

Research: Professor Xiang's research is rated as excellent. He has been very successful in gaining sponsored research since his last promotion, with funding from NSF, MTC, and companies totaling over one million dollars and works well on teams, supervising visiting scholars working in his research lab. Professor Xiang works on a variety of applied wireless communications projects relating to different aspects of mobile wireless communications in manned and autonomous vehicle systems. He has 13 journal publications, many of them in top journals. On several of the project teams, he was supervising visiting scholars and post-doctoral fellows.

Recent and Significant Publications:

Z. Wen and W. Xiang, "Joint Transceiver and Power Splitter Design with Energy Harvesting and Lattice Forwarding," *IEEE Communications Letters*, 2014.

- D. Shan, K. Zeng, P. Richardson, and W. Xiang, "Detecting Multi-Channel Wireless Microphone User Emulation Attacks in White Space with Noise," *Cognitive Communications*, vol. 1, no. 1, pp. 1-13, 2014.
- H. Qian, X. Wang, K. Kang, and W. Xiang, "A Depth-First ML Decoding Algorithm for Tail-biting Trellises," *IEEE Trans. Veh. Technol.*, vol. 64, no. 8, pp. 3339-3346, 2015.
- S. Dai, H. Qian, K. Kang, and W. Xiang, "A robust demodulator for OQPSK-DSSS system," *Circuits, Systems & Signal Processing*, Springer, in revision, vol. 34, no. 1, pp. 231-247, 2015.
- Z. Xu, H. Nie, Z. Chen, W. Xiang, and L. Yu, "On the Nonlinear Teager-Kaiser Operator for Energy Detection Based Impulse Radio UWB Receivers," *IEEE Trans. Wireless Commun.*, vol. 13, no. 5, pp. 2955-2965, 2014.
- X. Wang, H. Qian, K. Kang, and W. Xiang, "A Low-Complexity Maximum Likelihood Decoder for Tail-Biting Trellis," *EURASIP Journal on Wireless Communications and Networking*, 2013.
- D. Shan, K. Zeng, W. Xiang, P. Richardson, and Y. Dong, "Phy-cram: Physical layer challenge-response authentication mechanism for wireless networks," *IEEE Journal on Selected Areas in Communications*, vol. 31, no. 9, pp. 1817-1827, Sep. 2013.
- H. Khani, H. Nie, W. Xiang, Z. Xu, and Z. Chen, "Polarity-Invariant Square Law Technology for Monobit Impulse Radio Ultra-Wideband Receivers," *IEEE Trans. Veh. Technol.*, vol. 63, no. 1, pp. 458-464, 2014.
- X. Wang, H. Qian, W. Xiang, J. Xu, and H. Huang, "An Efficient ML Decoder for Tailbiting Codes Based on Circular Trap Detection," *IEEE Trans. Commun.*, vol. 61, no. 4, pp. 1212-1221, 2013.
- Y. Zhou, Y. Ji, W. Xiang, S. Addepalli, A. Guo, and F. Liu, "Heterogeneous Link Characterization Based on Multi-Keyhole Channel Model for Cooperative Diversity Wireless Communications," *IEICE Trans. Commun.*, 2011.
- Z. Gao, W. Xiang, Y. Zhao, J. Zhao, S. Cai, W. Pan, H. Jiang, and H. Wang, "Random Network Coding-based Optimal Scheme for Perfect Wireless Packet Retransmission Problems," (Wiley) *Wirel. Commun. Mob. Comput.*, 2011.
- S. Majhi, A. S. Madhukumar, A. B. Premkumar, W. Xiang, and P. Richardson, "Enhancing Data Rates of TH-UWB Systems Using M-ary OPPM-BPSM Modulation Scheme: A System Perspective," *Springer Wireless Personal Commun.*, vol. 56, no. 3, pp. 583-597, 2011.

Service: Professor Xiang is rated as significantly capable in service. He is active in a variety of service roles within the department, including search committee chair, as well as member, and ECE Ph.D. committee chair. He also serves as a member of the University Research Committee and mentors junior faculty and post-doctoral fellows. In addition, Professor Xiang is active in professional societies. He is a senior member of IEEE and has served as the associate editor of *IEEE Communications Magazine* and editor of *EUSASIP Journal on Wireless Communications and Networking* since 2011. He is a reviewer for many journals, conferences, and proposals.

External Reviewers:

Reviewer A: "I have concluded that he has reached the level of research excellence worthy of a professor and without any hesitation I fully support his promotion to the Rank of Professor."

Reviewer B: "It is my great enthusiasm to support Dr. Weidong Xiang's promotion to the rank of Full Professor at your prestigious university based on my assessment of his scientific contributions to the research on vehicular communications and networks and notable services in the academic community."

Reviewer C: "The quality of the journals he has published ranges from good to excellent."

Reviewer D: "The quantity of the papers as well as their citations is both good, but focus has been an issue."

Reviewer E: "The USA research has resulted in 29 professional conference publications, more than 25 publications in professional journals such as IEEE Transactions, one patent, and 15 research grants obtained from federal, industrial, and university resources. In 13 out of 15 listed grants, Dr. Weidong Xiang was listed as a Principal Investigator (PI). Funding organizations in the USA were: University of Michigan, General Motors, National Science Foundation, Argonne National Laboratory, and CISCO University Research Program."

Reviewer F: "It is with great pleasure to give my strongest recommendation to Dr. Weidong Xiang, who is being considered to be promoted to the Full Professor at the Department of Electrical and Computer Engineering, University of Michigan, Dearborn."

Reviewer G: "It is my opinion he compares favorably with his peer group in the same state of career, and well deserves this promotion."

Summary of Recommendation:

We are very pleased to recommend, with strong support of the College of Engineering and Computer Science Executive Committee, Weidong Xiang for promotion to professor of electrical and computer engineering, with tenure, College of Engineering and Computer Science.



Anthony W. England, Dean
College of Engineering and Computer Science



Daniel Little, Chancellor
University of Michigan-Dearborn

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