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

Di Ma, assistant professor of computer and information science, Department of Computer and Information Science, College of Engineering and Computer Science, is recommended for promotion to associate professor of computer and information science, with tenure, Department of Computer and Information Science, College of Engineering and Computer Science.

Academic Degrees:

Ph.D.	2009	University of California, Irvine, California
M.E.	2000	Nanyang Technological University, Singapore
M.E.	1998	Xi'an Jiaotong University, Xi'an, China
B.E.	1995	Xi'an Jiaotong University, Xi'an, China

Professional Record:

2009 – present	Assistant Professor of Computer and Information Science, Department of Computer and Information Science, University of Michigan-Dearborn
2008 – 2008	Summer Intern, IBM Almaden Research Center, Almaden, California
2005 – 2008	Graduate Student Research Assistant, Department of Computer Science, University of California, Irvine, California
2000 – 2005	Senior Research Engineer, Institute for Infocomm Research, Singapore

Teaching: Professor Ma is rated excellent in teaching. Professor Ma is an excellent educator who established an excellent record in all aspects of teaching including classroom instruction, curriculum and laboratory development and student mentorship. She has taught a wide range of undergraduate and graduate courses in the Department of Computer and Information Science. Since her appointment as an assistant professor in September 2009, she has taught eight different courses, four of which she developed. Her course evaluations are consistently among the top in the department. Also, her contribution was instrumental in developing the newly introduced B.S. in digital forensics program. She helped designed the curriculum, introduced new courses, and helped improve existing courses. She was also the faculty champion in developing an online undergraduate certificate program on Practical Aspects of Computer Security.

In addition, Professor Ma has distinguished herself as an excellent student advisor. She has been the Ph.D. advisor for one doctoral student, the advisor of four M.S. thesis students, and the advisor of two M.S. project students. She also advised two undergraduate students on research projects and mentored one post-doctoral fellow. Her mentorship is also demonstrated through her publications with her graduate students.

Research: Professor Ma is rated excellent in her research. Professor Ma's primary research interests lie in the areas of computer and network security, privacy, and applied cryptography. Specifically, her research focuses on security and privacy of mobile devices, wireless sensor network security, cloud computing security, secure storage systems, and multimedia security. She has made significant contributions to these areas. In addition, she has an excellent track record of publication including 17 refereed journal papers (10 of them were produced after joining UM-Dearborn), two book chapters (one of them was produced after joining UM-Dearborn), and 30 refereed conference/symposium/

workshop papers (15 of them were produced after joining UM-Dearborn). The publication venues include top-tier journals and highly competitive conference proceedings.

Professor Ma's funding record is very impressive. She has received three highly competitive NSF research grants, as the PI, for a total of $365,124. In addition, she is the PI of three other research grants, two equipment grants, and a co-PI of one campus research grant. In total, she has received eight funded grants for a total of $428,000. In addition, she has established a national and international reputation in her field, as evidenced by her publications in top venues, 13 invited talks at various venues, four editorships for reputable journals, important positions in the organizing committees of top conferences, and program committee membership for many conferences/workshops.

Recent and Significant Publications:

Y. Zhu, D. Ma, C. Hu, G.-J. Ahn, and H. Hu, 'Secure and Efficient Random Functions with Variable-Length Output,' *Journal of Network and Computer Applications*. Volume 45 (2014), pp. 121-133.

B. Zhang, Q. Zhan, S. Chen, M. Li, K. Ren, C. Wang and D. Ma, 'PriWhisper: Enabling Keyless Secure Acoustic Communication for Smartphones,' *IEEE Internet of Things Journal*, Volume 1, Number 1 (February 2014), pp. 33-45.

T. Halevi, H. Li, D. Ma, N. Saxena, J. Voris, and T. Xiang, 'Context-Aware Defenses to RFID Unauthorized Reading and Relay Attacks,' *IEEE Transactions on Emerging Topics in Computing*, Volume 1, Issue 2 (December 2013), pp. 307-318.

Y. Zhu, G.-J. Ahn, H. Hu, D. Ma, and S. Wang, 'Role-based cryptosystem: A New Cryptographic RBAC System Based on Role-Key Hierarchy,' *IEEE Transactions on Information Forensics and Security*, Volume 8, Issue 12 (December 2013), pp. 2138-2153.

D. Ma, N. Saxena, T. Xiang, and Y. Zhu,' Location-Aware and Safer Cards: Enhancing RFID Security and Privacy via Location Sensing, *IEEE Transactions on Dependable and Secure Computing)*, Volume 10, Issue 2 (March-April 2013), pp. 57-69.

Service: Professor Ma is rated excellent in her service. Professor Ma has made excellent service contributions to the university and research community. She has served on various on-campus committees, including the campus's Faculty Mentoring and Developments committee, CECS Experiential Learning Committee, and CIS Undergraduate Curriculum Committee. In addition, she has served as an NSF proposal review panelist multiple times, Technical Program Committee of numerous conferences, and editorial board member or guest editor for several reputable journals.

External Reviewers:
Reviewer A: "She has contributed extensively in the area of security for wireless sensors and I see after her graduation she was still able to publish top-notch papers (in WiSec, Escorics, etc.) with her students. This shows a great deal of independence and ability to effectively manage a research group. I'm also very familiar with her work on cryptographic schemes, such as aggregate signatures and authenticators, and find it outstanding."

Reviewer B: "In my view, the work that Dr. Di Ma has carried out with her advisor (Professor Gene Tsudik) is very good and has been published in top conferences and journals. By contrast the work done after she graduated and started working as assistant professor does not seem at the same level as her previous work. Almost all the venues where this recent work has been published are not consider [sic] top venues. ... To summarize, based on the promotion materials I have analyzed, it seems to me

that Dr. Di Ma has been very active in teaching activities and this has detracted from the quality of her research and her efforts in securing funds. At my institution, her case would be considered a weak promotion case and most likely lead to an unfavorable decision."

Reviewer C: "She did a very thorough study to show how this observation can be used to enhance system security. This is quite a novel idea, and I have asked all my Ph.D. students to read and discuss this paper."

Reviewer D: "Di has made a significant contribution in the area of wireless security, data security, and multimedia security. She has established herself as one of the leading researchers in the field of wireless security by publishing in reputed conferences and journals, winning highly competitive NSF grants."

Reviewer E: "Her recent efforts on enhancing RFID security and privacy via location-related information as legitimate access context to prove or confirm the validity of secure transactions, which has been accepted into IEEE Transactions on Dependable and Secure Computing (TDSC), a top journal in the field."
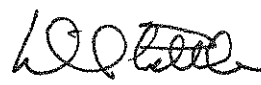
Reviewer F: "Dr. Ma's efforts in starting three new research areas after joining University of Michigan-Dearborn are impressive. Her research is motivated by real problems such as security and privacy for smartphone, security for cloud computing, as well as RFID-based systems. All these areas represent very important problems in the current computing ecosystem and Dr. Ma has made notable contributions in each of them."

Reviewer G: "What is also notable in Dr. Di Ma's funding record is that she has been successfully award as NSF I-CORPS award which reflects the applicability, innovation, impact and marketing potential for Dr. Di Ma's research work."

Reviewer H: "Di is a highly qualified and productive junior faculty member with a proven track record of accomplishments and a demonstrated ability to carry out an independent research program."

Summary of Recommendation: We are very pleased to recommend, with strong support of the College of Engineering and Computer Science Executive Committee, Di Ma for promotion to associate professor of computer and information science, with tenure, Department of Computer and Information Science, College of Engineering and Computer Science.

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

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Daniel Little, Chancellor
University of Michigan-Dearborn

May 2015