PROMOTION RECOMMENDATION

The University of Michigan-Dearborn
College of Engineering and Computer Science
Department of Computer and Information Science

Jinhua Guo, 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 Information and Computer Science, College of Engineering and Computer Science.

Academic Degrees:

Ph.D.	2002	University of Georgia, Computer Science, Athens, Georgia
M.E.	1995	Dalian University of Technology, Computer Science, Dalian, China
B.E.	1992	Dalian University of Technology, Computer Science, Dalian, China

Professional Record:

2002 to present	Assistant Professor, Department of Computer and Information Science, College of Engineering and Computer Science, University of Michigan-Dearborn, Dearborn, Michigan
1999 to 2002	Research Assistant, Department of Computer Science, University of Georgia, Athens, Georgia
1995 to 1998	Lecturer, Department of Computer Science and Engineering, Dalian University of Technology, Dalian, China

Summary of Evaluation:

Teaching: Professor Guo's teaching is rated as significantly capable. He believes that a teacher should never stop learning and that by teaching a course one learns more and more. His lectures are always well-prepared and organized. Professor Guo encourages questions during lectures and never puts down a student for a 'silly' question. Patience is his motto. He promotes interaction both in the classroom and outside, believing that this makes them think and keeps their attention. Since most computer systems courses are design and problem oriented, he places as much emphasis on working problems as on the theory. Many practical examples are incorporated into the lectures at appropriate places. He uses simple language to explain difficult concepts and emphasizes the basics, trying not to overload the students with complex information, but rather to reiterate over and over those basics that are important. All concepts are illustrated by problems and wherever possible by examples from the real world. Professor Guo has substantially revised the two upper-level undergraduate core courses CIS 427 and CIS 450 (updated and re-organized the topics, designed a series of new projects) to keep them up-to-date in the field. In 2004, he received the *ASEE/IEEE Frontiers in Education New Faculty Fellow Award*, for the paper which discussed a new approach for effective teaching of Process Synchronization in Operating Systems (CIS 450). Professor Guo has and continues to be an active participant in the development of our new Digital Forensics undergraduate degree.

Research: Professor Guo's research is rated as excellent. It spans the areas of networking, scientific computing, and distributed computing. Within networking, his focus has been on using vehicle-to-vehicle and vehicle-to-roadside communications to improve the safety of vehicles and

efficiency of transportation systems. He has designed and developed secure and privacy-preserving communication techniques; reliable broadcasting and context assisted routing protocols; a 5.9GHz WAVE testbed; and a middleware for vehicle telematics. Within scientific computing, his focus has been on the large scale and ill-conditioned optimization problems arising from vehicular networks and transportation systems. He has designed and evaluated several new adaptive trust region and line search methods for unstrained optimization problems. Within distributed computing, his focus has been on the interactive steering of distributed computations – the on-the-fly control of long-running, resource-intensive computations. He has developed the *Pathfinder* interactive steering system, has introduced a transaction-based computational model, and has designed a novel optimistic consistent steering approach. Professor Guo's research has been sponsored by highly competitive funding sources. He has published 28 research papers (14 refereed journals, one refereed book chapter, and 13 refereed conference proceedings) since he joined UM-Dearborn.

Recent and Significant Publications:

Shi, Z.J. and Guo, J., "A new trust region method for unconstrained optimization," *Journal of Computational and Applied Mathematics,* (in press, accepted, 01/2007, published online, 02/2007) http://dx.doi.org/10.1016/j.cam.2007.01.027.

Shi, Z.J. and Guo, J., "A new trust region method with adaptive radius," *Computational Optimization and Applications* (in press, accepted, 12/2006, published online, 10/2007).

Shi, Z.J. and Guo, J., "Convergence of memory gradient methods," *International Journal of Computer Mathematics* (in press, accepted, 05/2007).

Guo, J. and Xing, G., "Using mobile agent-based middleware to support distributed coordination for vehicle telematics," *Proceedings of the 2007 IEEE International Symposium on Ubiquitous Computing and Intelligence (UCI-07)*, 2007, May, Niagara Falls, Canada, pp. 374-379.

Guo, J., "Consistency verification in transaction-based optimistic steering of distributed computations," *International Journal of Parallel, Emergent, and Distributed Systems,* vol. 21, no. 6, 2006, pp. 385-404.

Guo, J. and Baugh, J.P., "Security and privacy in vehicle safety communication applications," *SAE Transactions Journal of Passenger Cars: Electronic and Electrical Systems,* vol. 115, no. 7, 2006, pp. 721-727.

Service: Professor Guo's service to the department, the college, the university, and the field is rated as excellent for one at this stage in his academic career. He has served on numerous important departmental committees and is presently serving on the campus-wide Scholarship Committee until 2010. He has played a key role in designing our proposed digital forensics undergraduate degree program. Professor Guo is on numerous conference program committees, co-organized and co-chaired a workshop, and was a guest editor of a journal special issue on ubiquitous networking. As expected, he has also reviewed many journal and conference papers.

External Reviewers:

Reviewer A: "Dr. Guo has demonstrated some sustained record of research contribution required during the transition to Associate Professor. Based on his academic record to date, I would expect him to be a good contributor to the department and support his application for tenure and promotion."

Reviewer B: "Professor Guo has compiled a solid publication record, especially in recent years with many journal articles in press or under submission. Although his work spans several disparate areas, he has compiled a critical mass of results and publications in the transportation area, and shows excellent promise to achieve impact in this domain. … In summary, I am pleased to give Professor Guo my strong support for promotion and tenure. I believe he is off to an outstanding start in developing a long, productive career."

Reviewer C: "On the whole, the candidate has a high scholarly achievement, in terms of journal and conference publications. Professional service of the candidate is also well recognized by the research community. There is no doubt to me that Dr. Jinhua Guo satisfied the criteria for promotion to Associate Professor and tenure. I give my full support to his promotion and tenure application."

Reviewer D: "In conclusion I find that Dr. Guo has demonstrated through his research and scholarly work, teaching activities, and administrative duties that he is qualified for promotion to Associate Professor and tenure."

Reviewer E: "In summary, I think that University of Michigan, Dearborn's stature has been enhanced by the activity of Dr. Guo. He is on a good research trajectory. His research, service and teaching should qualify him for promotion to the rank of associate professor with tenure at the University of Michigan, Dearborn."

Reviewer F: "In the peer group defined as those who completed their Ph.D. in 2002 and who work in academia in networking, the candidate is an active researcher and solid contributor to the field though he is not in the first tier of researchers."

Reviewer G: "In summary, I believe Dr. Guo excel [sic] in research and service. I have no doubt he will turn himself to be an outstanding scholar, given time and opportunity. He is definitely a valuable asset to your department and UMD."

Reviewer H: "I think that his research output is significant, and is commensurate with the productivity of successful tenured faculty members in a major public university. I would therefore support his case."

Summary of Recommendation:

Professor Jinhua Guo is an excellent researcher, an excellent teacher, and a valued colleague. He has published numerous papers in journals and conferences, has been successful in acquiring very competitive NSF and industrial funding, and has served on numerous journal and conference committees. His service to the field, the campus, the college, and the department has also been excellent. We are pleased to recommend, with strong support of the College of Engineering and Computer Science Executive Committee, Jinhua Guo for promotion to associate professor of computer and information science, with tenure, Department of Information and Computer Science, College of Engineering and Computer Science.

Subrata Sengupta
Dean
College of Engineering and Computer Science

Daniel Little
Chancellor
University of Michigan-Dearborn

May 2008