

May 17, 2007

PROMOTION RECOMMENDATION

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

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

Academic Degrees:

Ph.D.	1995	University of Waterloo, Computer Science, Waterloo, Ontario, Canada
M. S.	1991	McMaster University, Applied Mathematics, Hamilton, Ontario, Canada
M.Eng.	1984	Southeast University, Computer Science, Nanjing, China
B. S.	1982	Southeast University, Mathematics, Nanjing, China

Professional Record:

2001 to present	Associate Professor, with tenure, Department of Computer and Information Science, College of Engineering and Computer Science, University of Michigan-Dearborn
2003 to 2006	IBM CAS Faculty Fellow, IBM Centre for Advanced Studies, Toronto, Ontario, Canada
Fall 2002	Visiting Associate Professor, Michigan State University, Department of Computer Science and Engineering, Lansing, Michigan
1998 to 2005	Visiting Scientist, IBM Toronto Laboratory, Toronto, Ontario, Canada
1995 to 2001	Assistant Professor, Department of Computer and Information Science, College of Engineering and Computer Science, University of Michigan-Dearborn

Summary of Evaluation:

Teaching: Qiang Zhu's teaching is rated excellent. He has taught system-oriented as well as theoretical courses at both the undergraduate and graduate level, and has consistently received excellent rankings. He was twice nominated for a Distinguished Teaching Award, in 1998 and 2000. His philosophy is to motivate students to learn, to spark students' intellectual curiosity and allow for active involvement and participation. Another important aspect of his teaching is that he supplements abstract concepts with concrete examples. Professor Zhu always motivates theory with real applications. After some theoretical materials are covered in his lectures, students always have a chance to apply them to solve practical problems in their projects/exercises. He involves students, both undergraduate and graduate, in research activities. This is done via directed research, independent studies, course projects, and thesis work. Professor Zhu's student evaluations are consistently close to or above 3.5 out of 4.0, a ranking which has been consistently above the faculty average.

Research: Qiang Zhu's research is rated excellent. He has published in top-ranked database journals and conferences and has had several NSF research grants. Professor Zhu has always involved top quality students to participate in his research program; his students are truly exceptional. As further evidence of his international reputation, he is an associate editor of a journal, has served on numerous program committees, is cited in the best database journals, and has had his research results discussed in three database textbooks. Professor Zhu's research is in the areas of indexing multidimensional non-ordered discrete data spaces, global query optimization for multidatabase systems, self-managing database management systems, optimizing complex queries for database management systems, and in-vehicle database management.

Recent and Significant Publications:

- Qian, G., Zhu, Q., Xue, Q., and Pramanik, S., A space-partitioning-based indexing method for multidimensional non-ordered discrete data spaces, *ACM Transactions on Information Systems* 24(1):79-110, 2006.
- Qian, G., Zhu, Q., Xue, Q., and Pramanik, S., Non-ordered discrete data spaces using a data-partitioning approach, *ACM Transactions on Database Systems* 31(2):439-484, 2006.
- Xue, Q., Pramanik, S., Qiang, G., and Zhu, Q., A hybrid index structure for querying large string databases, 3(3/4):243-254, 2005.
- Zhu, Q., Tao, Y., and Zuzarte, C., Optimizing complex queries based on similarities of subqueries, *Knowledge and Information Systems*, 8:350-373, 2005
- Zhu, Q., Dunkel, B., Lau, W., Chen, S., and Schiefer, B., Piggyback statistics collection for query optimization: Towards a self-maintaining database management system, *The Computer Journal* 47(2): 221-243, 2004.

Service: Qiang Zhu's service is rated excellent. His service to the research community is entirely consistent with his international reputation as a researcher. He is an associate editor of a journal, has been on the program committee of over 15 international conferences since 1998, and has served as a reviewer for many journals in the field. Professor Zhu's service to the department, the college, and the university has been of the highest quality. He has designed all the data management courses in the department and has served on college committees which have been designing various interdisciplinary degree programs. He has also served on several university committees, which have relied on his unique expertise.

External Reviewers:

Reviewer (A)

"...the very recent publication on 'Evolutionary techniques for updating query cost models in a dynamic multidatabase environment' (2004) does have the potential to be [sic] become a prestigious publication. His major research directions are considered highly relevant by the overall data management research community. ...Dr. Zhu is able to demonstrate his expertise through some outstanding papers on query optimization and index structures published in top-ranked conferences/journals."

Reviewer (B)

"It appears to me that Prof. Zhu has put much emphasis on publishing at top-notch conferences and prestigious journals in his research areas. Prof. Zhu is a leading researcher in the area of multidatabase query processing and optimization in the world. Among the people who are still actively doing research in this area, I cannot think of anyone who can be ranked higher than Prof. Zhu."

Reviewer (C)

"I must say that I am pleasantly surprised with the overall quality of these publications as well. ...Prof. Zhu works on significant problems, concentrates on obtaining nontrivial and worthy results, and publishes them competently in high quality places."

Reviewer (D)

"Dr. Zhu has done some very innovative research in this area. ...this research is very good and has appeared in very good venues. I have used his research prominently in the second edition of our book. ...[he] has accumulated a very impressive publication record... ..Dr. Zhu has compiled an internationally competitive research program and record and is very deserving of promotion to the rank of Professor."

Reviewer (E)

"He has published in all top journals in our area...as well as other highly influential journals with high impact ratings...Qiang's work on query sampling technique to estimate the cost parameters was a pioneering work that is more practical than other approaches and is still the best work on that topic. By now, this work has made its way into at least two text books in relevant areas."

Reviewer (F)

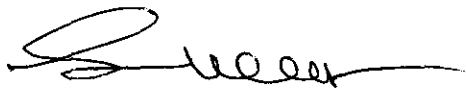
"I had the opportunity to attend a presentation of this research at the IBM CASCON Conference and it was very well received. ...I've found him to be very much engaged in key research discussions with the leaders of the field. I am highly confident of his excellent statue in the database field."

Reviewer (G)

"...his publications in the area of global query optimization for multidatabase systems are numerous and are well cited. The cost models he built are of significance as they permit accurate cost estimations in different multidatabase environments."

Summary of Recommendation:

Professor Qiang Zhu is an excellent researcher, teacher, and colleague. He has published in top-tier journals and conferences, has been successful in acquiring extremely competitive NSF and IBM funding, has served on numerous journal and conference committees, and is very well thought of by his peers in the database community. We are very pleased to recommend, with the strong support of the College of Engineering and Computer Science Executive Committee, Qiang Zhu for promotion to professor of computer and information science, with tenure, Department of Computer and Information Science, College of Engineering and Computer Science.



Subrata Sengupta
Dean
College of Engineering and Computer Science



Daniel Little
Chancellor
University of Michigan-Dearborn

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