PROMOTION RECOMMENDATION
University of Michigan-Flint
College of Arts and Sciences
Department of Mathematics

Lixing Han, associate professor of mathematics, with tenure, Department of Mathematics, College of Arts and Sciences, is recommended for promotion to professor of mathematics, with tenure, Department of Mathematics, College of Arts and Sciences.

Academic Degrees:

Ph.D.	2000	University of Connecticut
M.S.	2000	University of Connecticut
M.S.	1997	University of Connecticut
M.S.	1987	Chinese Academy of Sciences, Beijing, China
B.S.	1985	Tianjin University, China

Professional Record:

2006 – Present	Associate Professor of Mathematics, with tenure, University of Michigan-Flint
2009 – 2012	Chair, Department of Mathematics, University of Michigan-Flint
2000 – 2006	Assistant Professor of Mathematics, University of Michigan-Flint
1995 – 2000	Teaching Assistant, Department of Mathematics, University of Connecticut
1990 – 1995	Lecturer, Department of Mathematics, Tianjin University
1988 – 1990	Assistant Lecturer, Department of Mathematics, Tianjin University

Summary of Evaluation:

Teaching – Professor Han has taught sixteen different courses since 2006. These have ranged from remedial math, the program's capstone course, and graduate level courses. Student responses are among the highest in the department, while peer reviews are equally enthusiastic. Professor Han played leading roles in revising the Actuarial Mathematics program and in the design and implementation of the Master of Arts in mathematics. He is an excellent teacher dedicated to his craft.

Research – Since Professor Han's initial promotion in 2006, he has published seven papers in pre-eminent, peer-reviewed journals. Additional work has been accepted and is awaiting publication, is under review, or is in progress. External evaluators attest to the significance and impact of his work. Since his first publication in 1992, Professor Han has thirty publications.

Recent and Significant Publications:

Papers Published
Han, Lixing, Gao, F. and Schilling, K. "On the Rate of Convergence of Iterated Exponentials," *Journal of Applied Mathematics and Computing*, Vol. 39, 2012, pp. 89-96.
Han, Lixing, Friedland, S. and Gaubert, S. "Perron-Frobenius Theorem for Nonnegative Multilinear Forms and Extensions," *Linear Algebra and its Applications*, Vol. 438, 2013, pp. 738-749. Appeared online April 2011, doi:10.1016/j.laa.2011.02.042.

Han, Lixing and Gao, F. "Implementing the Nelder-Mead Simplex Algorithm With Adaptive Parameters," *Computational Optimization and Applications*, Vol. 51, No. 1, 2012, pp. 259-277.

Han, Lixing, Neumann, M. and Prasad, U. "Alternating Projected Barzilai-Borwein Methods for Nonnegative Matrix Factorization," *Electronic Transactions on Numerical Analysis*, Vol. 36, 2009-2010, pp. 54-82.

Han, Lixing, Han, J., Neumann, M. and Prasad, U. "On the Rate of Convergence of the Image Space Reconstruction Algorithm," *Operators and Matrices*, Vol. 3, No. 1, 2009, pp. 41-58.

Han, Lixing, Axtell, J., Hershkowitz, D., Neumann, M. and Sze, N. "Optimization of the Spectral Radius of a Product for Nonnegative Matrices," *Linear Algebra and its Applications*, Vol. 430, Issues 5-6, 2009, pp. 1442–1451.

Han, Lixing, Chen, M. and Neumann, M. "On Single and Double Soules Matrices," *Linear Algebra and its Applications*, Vol. 416, 2006, pp. 88-110.

Han, Lixing and Neumann, M. "Effect of Dimensionality on the Nelder-Mead Simplex Method," *Optimization Methods and Software*, Vol. 21, No. 1, 2006, pp. 1-16.

Papers Accepted

Han, Lixing, Bunker, D. and Zhang, S. "A Proximal ANLS Algorithm for Nonnegative Tensor Factorization With a Periodic Enhanced Line Search," *Applications of Mathematics*, to appear.

Paper Submitted

Han, Lixing. "An Unconstrained Optimization Approach for Finding Real Eigenvalues of Even Order Symmetric Tensors." 2012.

Invited Book Chapters

Han, Lixing and Neumann, M. "Inner Product Spaces, Orthogonal Projection, Least Squares, and Singular Value Decomposition," in Handbook of Linear Algebra (editor: L. Hogben), CRC Press, Boca Raton, 2006.

Han, Lixing and Neumann, M. "Inner Product Spaces, Orthogonal Projection, Least Squares, and Singular Value Decomposition." Revised version to appear in Handbook of Linear Algebra (editor: L. Hogben), second edition, CRC Press, Boca Raton, 2013.

Service – Professor Han presents a varied and substantial record in service. Prior work includes service as chair of the Department of Mathematics (2009-12) and ongoing involvement in department efforts to secure NCATE accreditation for the education unit of the University of Michigan-Flint. He serves on editorial boards of two mathematics journals, and has refereed papers for an additional ten journals. A significant amount of additional service at department, college and university levels round out an impressive array of accomplishments.

External Reviewers:

Reviewer (A):
"In short, Dr. Han has made outstanding contributions to his field. The quantity and quality of his papers are both excellent compared to his peers. In am confident that he will continue to make significant contributions in his research in the future."

Reviewer (B):
"His publications are receiving attention from other researchers, and his results are having a positive impact in their target audiences. Based on his current record, I fully expect that Professor Han will make continued contributions to mathematical research throughout his career."

Reviewer (C):
"Dr. Lixing Han's research and scholarly activity clearly support his request for promotion to Professor."

Reviewer (D):
"All these results show that Dr. Han is a versatile researcher in different areas of applied mathematics. His papers are published in first rate journals in his field ... (I may mention here that all these journals have a tough reviewing process and high rejection rates.)"

Reviewer (E):
"Dr. Han's research contributions are first-rate. The volume of his published work is significantly above average for our area, especially given his teaching and administrative role at your institution. His research output is steady and his research program well-established. As a consequence, I fully expect Dr. Han to continue to contribute throughout his career at the same healthy pace."

Reviewer (F):
"In view of Dr. Han's impressive record of accomplishments and his current research, there is no doubt in my mind that Dr. Han will continue to be excellent in his future research in linear algebra, optimization and numerical computation fields."
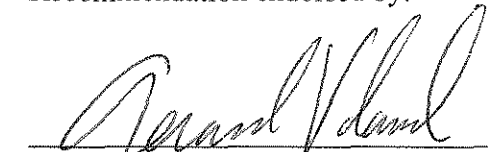
Summary of Recommendation:

Given outstanding teaching and scholarship, and strong, positive efforts in service, the College of Arts and Sciences Executive Committee and Dean enthusiastically recommend the promotion of Lixing Han to the rank of professor of mathematics, with tenure, Department of Mathematics, College of Arts and Sciences.

Recommended by:

D. J. Trela, Dean
College of Arts and Sciences

Recommendation endorsed by:

Gerard Voland, Provost and
Vice Chancellor for Academic Affairs

Ruth J. Person, Chancellor
University of Michigan-Flint

May 2013