PROMOTION RECOMMENDATION
The University of Michigan-Dearborn
College of Arts, Sciences, and Letters

Gengxin Li, associate professor of statistics, without tenure, Department of Mathematics and Statistics, College of Arts, Sciences, and Letters, is recommended for the granting of tenure to be held with her title of associate professor of statistics, Department of Mathematics and Statistics, College of Arts, Sciences, and Letters.

Academic Degrees:

Ph.D.   2010   Statistics and Probability, Michigan State University, East Lansing, MI
M.S.   2005   Statistics and Probability, Michigan State University, East Lansing, MI
B.E.   1997   Finance, Capital University of Economics and Business, Beijing, China

Professional Record:

2019 – present   Associate Professor of Statistics, Department of Mathematics and
                     Statistics, University of Michigan-Dearborn
2018 – 2019   Associate Professor of Statistics, Department of Mathematics and
                     Statistics, Wright State University
2012 – 2018   Assistant Professor of Statistics, Department of Mathematics and
                     Statistics, Wright State University
2010 – 2012   Post-doctoral Researcher, Department of Biostatistics, Yale University

Summary of Evaluation:

Teaching: Professor Li has taken a broad range of classes from general education requirements to graduate level courses in statistics and has proven to be an adaptable and conscientious educator. Students report that she is very knowledgeable, understanding, and passionate about her subject. Even in courses that were switched to a remote learning mode due to COVID-19, students commented that she cared about student success and that she made the material meaningful. In classroom observations, the clear organization, the motivation of topics by real-world data, and the use active learning components were all positively noted. Beyond the classroom, Professor Li has served as an advisor to one graduate student in Applied and Computational Mathematics, supervising a project analyzing enrollment data for factors that predict student success at UM-Dearborn. She has also served as a thesis committee member to a graduate student in engineering.

Research: Professor Li is an applied statistician, her work involves the advancement of statistical methodologies used to address problems in statistical genetics and genomics, as well as analyzing data in a number of diverse scientific settings. In her recent work, she develops a novel, weighted Bayesian framework to minimize bias in genetic sequencing and demonstrates improved prediction accuracy. She has co-authored seventeen peer-reviewed articles and one book chapter, with several publications appearing in top tier journals in statistical genetics. In

addition, she has served as the co-PI or biostatistician on three significant NIH grants and has presented her work at local and international conferences.

Recent and Significant Publications:

Li, G. X., Hou, L., Liu, X., and Wu, C. (2020). "A Weighted Empirical Bayes Risk Prediction Model Using Multiple Traits," *Statistical Applications in Genetics and Molecular Biology*, 19(3): 20190056.

Zhou, F., Ren, J., Li, G. X., Jiang, Y., Li, X., Wang, W., and Wu, C. (2019). "Penalized Variable Selection for Lipid-Environment Interactions in a Longitudinal Lipidomics Study," *Genes(Basel)*, Dec. 3; 10(12).

Wagner, R., Holland, C., Mainous, R. O., Matchan, W. A., Li, G. X., and Luiken, J. (2019) "Differences in Perceptions of Incivility Between Disciplines in Higher Education," *Nurse Educator*, 44(5), pp 265-269.

Li, G. X. (2016). "A New Model Calling Procedure for Illumina BeadArray Data," *BMC Genetics*, 17:90.

Li, G. X. and Zhao, H. Y. (2015) "M^3-S: A Calling Method Incorporating Information from Samples with Known Genotypes," *BMC Bioinformatics*, 16:403.

Service: Professor Li has served on a number of important committees on campus, including the admissions and scholarship committees for the graduate program in Applied and Computational Mathematics. At the college level, she is a member of the CASL Scholarship Committee. Noteworthy service to the profession includes writing technical reviews for journals in genetics, biometrics, and biostatistics.

External Reviewers:

Reviewer A: "I consider Dr. Li's work on SNP calling (3 papers in total) outstanding. I think Dr. Li is much more productive than her peer groups on developing methodologies."

Reviewer B: "Dr. Li is an excellent researcher in the field of statistical genetics. She made significant contributions to SNP calling and association studies. The results are solid, insightful, and important for statistical genetics."

Reviewer C: "Last but not least, this paper has been cited by other experts from USA, UK, Germany, and Spain in the world high-ranking scientific journals – PLoS Computational Biology, Current Opinion on Allergy and Clinical Immunology, Bioinformatics, PLoS One, etc. The citations of her published papers demonstrate the importance of her work."

Reviewer D: "She made a broad contribution in statistical genetics and genomics, following the tacks of both linkage and association studies. In particular, Professor Li has developed important statistical theory and methodology in several very vibrant research areas, such as genotype calling and imputation, mapping imprinted quantitative trait loci, functional mapping, dissecting maternal and parent-of-origin effects, genetic risk prediction, etc."

Reviewer E: "Dr. Li's researches, including that on the understanding of genome-wide association study, genotyping, genomic imprinting and functional mapping, are advancing the statistical genetics field. This is strongly indicative of the fact that her research is of outstanding quality."

Summary of Recommendation:
Professor Li is a talented and well-respected statistician who has shown a serious commitment to student success. She has achieved important results and advanced statistical methodologies in the areas of genetics and genomics and is a conscientious and engaging educator. With the support of the College of Arts, Sciences, and Letters Executive Committee, we are pleased to recommend Gengxin Li for the granting of tenure to be held with her title of associate professor of statistics, Department of Mathematics and Statistics, College of Arts, Sciences, and Letters.

Martin Hershock
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Martin J. Hershock, Dean
College of Arts, Sciences, and Letters

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Domenico Grasso, Chancellor
University of Michigan-Dearborn

May 2021