

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

Keshav P. Pokhrel, assistant professor of mathematics and statistics, Department of Mathematics and Statistics, College of Arts, Sciences, and Letters, is recommended for promotion to associate professor of mathematics and statistics, with tenure, Department of Mathematics and Statistics, College of Arts, Sciences, and Letters.

Academic Degrees:

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| Ph.D. | 2013 | Statistics, University of South Florida, Tampa, FL |
| M.A. | 2008 | Marshall University, Huntington, WV |
| M.Sc. | 2000 | Mathematics, Tribhuvan University, Kathmandu, Nepal |
| B.Sc. | 1997 | Mathematics and Physics, Tribhuvan University, Kathmandu, Nepal |

Professional Record:

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| 2015 – present | Assistant Professor of Mathematics and Statistics, Department of Mathematics and Statistics, University of Michigan-Dearborn |
| 2013 – 2015 | Assistant Professor of Statistics, Department of Mathematics and Information Technology, Mercyhurst University |
| 2012 – 2013 | Instructor, Department of Mathematics and Statistics, University of South Florida |

Summary of Evaluation:

Teaching: Professor Pokhrel, a dedicated educator, regularly teaches a wide range of courses in statistics, from elementary courses that satisfy the campus' general education requirement to graduate classes elected by students in data science, applied and computational mathematics, and engineering. His work in both developing and revising the curriculum in applied statistics is highly valued. Students find him patient, knowledgeable, and willing to help outside the classroom. In classroom observations, his clear communication and excellent rapport with students was noted. Professor Pokhrel's classroom has evolved to include more active learning and he regularly engages in workshops on pedagogy and software to keep his classroom up to date.

Research: Professor Pokhrel is an applied statistician. His research interests focus on advancing statistical methodologies, the development and implementation of statistical software, and applications to biological science. Since the start of his appointment at UM-Dearborn, he has published seven articles in these areas. His work on generalized probability distributions builds a more flexible framework that may enhance the prediction of extreme events. The development of software to implement a novel Bayesian learning package for neural networks provides a useful tool to the professional community. His interdisciplinary work on phospholipid synthesis and RNA sequencing has led to an NIH grant and extends earlier work using unsupervised learning techniques to classify phospholipid species.

Recent and Significant Publications:

- Sharaf, T., Williams, T., Chehade, A., and Pokhrel, K. (2020). "BLNN: An R Package for Training Neural Networks Using Bayesian Inference," *SoftwareX*, vol. 11, 100432.
- Pokhrel, K., Sharaf, T., Bhandari, P., and Ghimire, D. (2020). "Farm Exit among Smallholder Farmers of Nepal: A Bayesian Logistic Regression Models Approach," *Agricultural Research*, DOI 10.1007/s40003-020-00465-4.
- Aryal, G., Pokhrel, K., Khanal, N., and Tsokos, C. (2019). "Reliability Models Using the Composite Generalizers of Weibull Distribution," *Annals of Data Science*, 6 (4), pp. 807-829.
- Wong, D., Plumb, J., Talab, H., Kurdi, M., Pokhrel, K., and Oelkers, P. (2019). "Genetically Compromising Phospho-lipid Metabolism Limits *Candida albicans*' Virulence," *Mycopathologia*, 184, pp.213-226.
- Kafle, R., Pokhrel, K., Khanal, N., and Tsokos, C. (2018). "Differential Equation Model of Carbon dioxide Emission using Functional Linear Regression," *Journal of Applied Statistics*, 46 (7), pp.1246-1259.

Service: Professor Pokhrel's service record is both impressive and impactful. As the undergraduate program advisor for applied statistics over the last four years, he has worked closely with students, assisted with course scheduling, managed several curriculum changes, and represented the department regularly at admissions events. His passion for helping students navigate career paths in quantitative fields made him a natural point person for the department's annual career event, a panel discussion where alumni discuss their career trajectories. At the university level, he has contributed to the analysis of assessment data in the Quantitative Thinking and Problem-Solving area as part of the general education requirements and he has served on the Research Support Committee. Noteworthy professional service includes his appointment as the president of the Association of Nepalese Mathematicians in America, his service on the organizing committees of several international conferences, and his work reviewing graduate program proposals for the Michigan Association of State Universities.

External Reviewers:

Reviewer A: "I assess these publications as indications of high quality research abilities of the faculty. Moreover, methodologies introduced by Dr. Pokhrel and his collaborators have many applications in cancer research data, RNA sequencing and thus has a potential for future growth."

Reviewer B: "In particular, I would like to point out the article *Differential Equation Model of Carbon Dioxide Emission using Functional Linear Regression...* This is an original approach to this problem and was published in a very good journal."

Reviewer C: "I think that Dr. Pokhrel's collaboration with colleagues is extremely valuable and demonstrates the importance and usefulness of statistics to real life and science."

Reviewer D: "In summary, Dr. Pokhrel's professional accomplishments are admirable. He has a promising future. I think it is a safe bet that he will further build strong research, teaching, and service records."

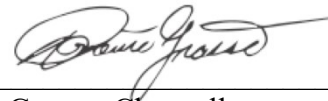
Reviewer E: “Producing software for others to use, is no small undertaking, and he should be commended for this. Overall I thought the publications show someone who is capable and creative.”

Summary of Recommendation:

Professor Pokhrel is a creative and well-respected statistician who has shown a serious commitment to student learning. In his research, he has attained significant results, furthering both statistical methodologies and computational capacity. He is extremely dedicated to student success and engagement at all levels. With support of the College of Arts, Sciences, and Letter’s Executive Committee, we are very pleased to recommend Keshav P. Pokhrel for promotion to associate professor of mathematics and statistics, with tenure, Department of Mathematics and Statistics, College of Arts, Sciences, and Letters.

Martin Hershock

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



Domenico Grasso, Chancellor
University of Michigan-Dearborn

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