APARM Special Session XII

Special Session Basic Information:

Session Title	Advances in Efficient Statistical Algorithms for Reliability Models

Introduction and topics

As modern engineering systems grow in complexity and scale, the demand for high-fidelity reliability assessment has never been greater. While sophisticated stochastic models and Bayesian frameworks provide deep insights into system health, they often encounter the "curse of dimensionality" or prohibitive computational costs when applied to real-time diagnostics or large-scale infrastructures. This special session aims to bridge the gap between theoretical reliability modeling and practical computational efficiency, highlighting innovations that make complex reliability analysis feasible for industry-scale applications.

Special Session Chair(s):

Photo

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Organizer's Brief Biography

Yincai Tang is a professor of statistics in the School of Statistics, East China Normal University, Shanghai, China. He received his Ph.D. degree from East China Normal University. His professional publications and research interests have focused on lifetime data analysis, degradation data analysis, big data analysis, and Bayesian inference.

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Organizer's Brief Biography

Ancha Xu received a B.S. degree in Mathematics from the Central China Normal University, Wuhan, China, in 2006, and a Ph.D. degree in probability theory and mathematical statistics from East China Normal University, Shanghai, China, in 2011. From 2011 to 2020, he was an associate professor of statistics at Wenzhou University, Wenzhou, China. Since 2021, he has been a professor in the School of Statistics and Data Science, Zhejiang Gongshang University, Hangzhou, China. He is the author of more than 60 articles. His research interests include Bayesian computation, data driven degradation modeling, and industrial statistics.