APARM Special Session VIII

Special Session Basic Information:

Session Title	Modeling and Optimization for System Reliability

Introduction and topics

Accurate reliability assessment is essential in modern society for maintenance planning and quality assurance. That requires appropriate system modeling and rigorous analytical methods. However, the rapid growth of IoT and cyber–physical technologies has made systems increasingly diverse and complex, posing significant challenges for modeling and analysis. This special session focuses on probabilistic modeling and optimization to evaluate and improve the reliability of complex systems. We invite contributions on Markovian deteriorating systems, operational decision-making under uncertainty, lifetime modeling, automated driving safety, and redundant network systems. Particular attention is given to modeling networked and multi-state systems, as well as to simulation-based and/or theoretical analysis methods, thereby enabling more accurate reliability evaluation of diverse systems in contemporary society.

Special Session Chair(s):

Name	Nakamura Taishin
Prefix	Junior Associate Professor
Department	Applied Computer Engineering
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Organizer's Brief Biography

Taishin Nakamura received a Ph.D. degree in Engineering from Tokyo Metropolitan University, Tokyo, Japan. He is currently a Junior Associate Professor at Tokai University. His research interests include system reliability evaluation and mathematical optimization. His research results have been published in various SCI journals, including IEEE Transactions on Reliability, IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, and Quality and Reliability Engineering International. He received the Best Paper Award at the 7th Asia-Pacific International Symposium on Advanced Reliability and Maintenance Modeling in August 2016.

Name	Shuhei Ota
Prefix	Assistant Professor
Department	Industrial Engineering and Management
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Organizer's Brief Biography

Shuhei Ota received a Ph.D. degree in Engineering from Hosei University, Tokyo, Japan. He is currently an Assistant Professor at Kanagawa University. His research interests include dependent failure analysis, copula modeling, and stochastic modeling. His research results have been published in various SCI journals such as Reliability Engineering & System Safety, IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, Japanese Journal of Statistics and Data Science, and PLoS ONE. He received the Outstanding Young Scientist Award of IEEE Reliability Society Japan Joint Chapter 2016.