Special Session: System Reliability & Resilience Decision-Making and Optimization

With increasing complexity of industrial and urban systems, unexpected disruptive events will lead to a significant damage than ever before, and bring serious economic and social problems. Therefore, the reliability and resilience of complex system (e.g., smart grid, infrastructure networks, transportation network, supply chain, and so on.) are the top concerns for researchers and engineers to achieve the version of "smart city".

In order to further improve the system reliability and resilience, this special session is intended to select, organize and exhibit the latest research progress on the cutting-edge research topic relevant to decision-making and optimization for reliability and resilience. The list of topics includes, but is not limited to:

- Reliability/resilience of complex systems
- Predictive/condition-based/selective maintenance decision-making
- Resilience optimization of complex systems
- Applications of artificial intelligent on importance measure for complex networks
- Reliability/resilience optimization under uncertainties
- Artificial intelligent technologies for maintenance/resilience
- Resilience against natural disasters, cyber threats, physical attacks and/or human errors
- Reliability/resilience modeling of complex system
- Applications of reliability/resilience modeling/evaluation/improvement in real engineering/urban systems
- Resilience simulation of complex system

Chair: Dongming Fan, Beihang University, China

Dongming Fan received the Ph.D. degree in school of reliability and systems engineering from Beihang University in 2020. He is currently a Postdoc in school of reliability and systems engineering, Beihang University. He has more than 20 papers in journals such as Renewable & sustainable energy reviews, Applied Energy, Reliability Engineering and System Safety and so on. His current research interests include importance measurement in complex system, resilience of complex networks, predictive maintenance and maintenance optimization. (E-Mail: fdm314@buaa.edu.cn)

Chair: Zhiwei Chen, Northwestern Polytechnical University, China

Zhiwei Chen was born in 1991. He received his Ph.D. degree from the School of Reliability and Systems Engineering, Beihang University, Beijing, China, in 2020. He is an associate professor at Unmanned system research institute, Northwestern Polytechnical University, Xi'an, China. His research interests are complex system reliability and safety, system of systems resilience. He is the reviewer of Reliability Engineering and System Safety and Computer & Industrial Engineering. (E-Mail: czw@nwpu.edu.cn)

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