

CONFERENCE PROGRAM

31st ISSAT International Conference on Reliability and Quality in Design

Atlanta, Georgia, USA
August 5-7, 2026

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Science and Applied Technologies

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The Korean Reliability Society (KORAS)

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Prof. Songlin Zheng (China)

Prof. Mengmeng Zhu (USA)

Prof. Ming J. Zuo (Canada)

AWARDS

RQD 2025 Best Paper Awards

Prof. Thi-Phuong Nguyen

National Chin-Yi University of Technology, Taiwan

“Reliability Evaluation of Multimodal Humanitarian Logistics
in Disaster Response”

by

Thi-Phuong Nguyen



RQD 2025 Best Student Paper Award

Mr. Hsuan-Yu Chen

National Yang Ming Chiao Tung University, Taiwan

“Assessing Multistate Production System Ability via Network Reliability Considering
Product Classification and Rework Action”

by

Hsuan-Yu Chen, Yi-Kuei Lin

Keynote

Quality and Reliability of Intelligent Systems – Challenges and Research Issues

Min Xie

Chair Professor of Industrial Engineering
City University of Hong Kong, Hong Kong SAR

Fellow of IEEE and IISE
Member of European Academy of Sciences and Arts

Intelligent systems introduce new quality and reliability challenges. Beyond the traditional quality and reliability problems, we must also address additional concerns such as data quality, learning-algorithm performance, explainability, scalability, etc. For AI-assisted systems, socio-technical factors, human–AI interaction, organizational processes, and regulatory constraints add further complexity to system modelling and analysis. Tackling these issues calls for a systems-level strategy, although research can still focus on specific problems, for example, software reliability, sensor reliability and degradation modelling. This talk will discuss some of these challenges with reference to the reliability of intelligent manufacturing systems, autonomous vehicles, and related domains.



Min Xie has been a Chair Professor of Industrial Engineering at City University of Hong Kong since 2011. He entered USTC in China in 1978 and went to Sweden in 1979 to complete his undergraduate studies at the Royal Institute of Technology. He later earned his PhD in Quality Technology from Linköping University in 1987. He was with the National Univ of Singapore from 1991 until 2011. Professor Xie has conducted extensive research in reliability, quality control, and systems engineering and has published over 400 journal papers and 10 books. Prof Xie has served as editor/editorial board members of over 15 refereed journals. He has mentored

about 80 PhD students who now excel in industry and academia across continents. Prof Xie is a fellow of IEEE and also elected to European Academy of Sciences and Arts. He currently chairs the Fellow Evaluation Committee of IEEE Systems Council. He is also a Clarivate Highly Cited Researchers 2025.

Conference Agenda

WEDNESDAY, AUGUST 5 (Hybrid)	THURSDAY, AUGUST 6 (Hybrid)	FRIDAY, AUGUST 7 (Virtual Only)
8:00 - 8:30 Check-in Continental Breakfast	8:15 - 8:45 Check-in Continental Breakfast	7:00 - 8:30 Technical Session 12
8:30 - 8:45 Welcome Awards Presentation	8:45 - 10:15 Technical Session 8	8:30 – 10:30 Technical Session 13
8:45 - 9:30 Technical Session 1	10:15 - 10:30 Coffee Break	10:30 – 12:00 Technical Session 14
9:30 - 10:15 Technical Session 2	10:30 - 12:00 Technical Session 9	12:00 – 14:00 Technical Session 15
10:15 - 10:30 Coffee Break	12:00 - 13:00 Conference Luncheon	Adjourn 14:00
10:30 – 12:00 Technical Session 3	17:30 – 19:30 Technical Session 10 (Virtual)	
12:10 - 13:15 Conference Luncheon	19:30 - 21:30 Technical Session 11 (Virtual)	
13:30 - 15:00 Technical Session 4		
15:00 - 15:15 Coffee Break		
15:15 – 16:45 Technical Session 5		
17:30 – 19:00 Technical Session 6 (Virtual)		
19:00 - 21:00 Technical Session 7 (Virtual)		

Technical Sessions

Wednesday, August 5, 8:45 - 9:30

SESSION 1: AI Today in Academia, Research, and Industry: Challenges and Opportunities

Chair: Prof. Hoang Pham (*Rutgers University, USA*)

Panelists: Prof. Mingchih Chen (*Fu Jen Catholic University, Taiwan*)

Dr. Kazuhira Okumoto (*Sakura Software Solutions, LLC, USA*)

Dr. Fengbin Sun (*Tesla Inc., USA*)

Wednesday, August 5, 9:30 - 10:15

SESSION 2: Keynote

Quality and Reliability of Intelligent Systems –
Challenges and Research Issues

Prof. Min Xie

(*City University of Hong Kong, Hong Kong SAR*)

Wednesday, August 5, 10:30 – 12:00

SESSION 3: System Reliability and Quality Modeling: Methods and Applications

Chair: Prof. Ping-Chen Chang (*National Taiwan University of Science and Technology, Taiwan*)

Speakers: Prof. Kuen-Suan Chen

Dr. Chun-Min Yu

A Fuzzy Assessment and Improvement Decision-Making Model for IC Packaging Process Quality in Smart Manufacturing Environments

Kuen-Suan Chen (*National Chin-Yi University of Technology, Taiwan*)

Chun-Min Yu (*National Chin-Yi University of Technology, Taiwan*)

Yen-Chun Huang (*National Chin-Yi University of Technology, Taiwan*)

Speaker: Dr. Satoshi Mizutani

Analysis of Maximum, Zero and the Intermediate Benefit Values for a System with Resting Period

Satoshi Mizutani (*Aichi Institute of Technology, Japan*)

Toshio Nakagawa (*Aichi Institute of Technology, Japan*)

Speaker: Prof. Cheng-Fu Huang

Bi-Objective Evaluation of System Reliability and Carbon-Emission Index for Budget-Allocation Multi-State Logistics Networks

Cheng-Fu Huang (*Feng Chia University, Taiwan*)

Yu-Xian Lin (*National Yang Ming Chiao Tung University, Taiwan*)

Ding-Hsiang Huang (*Tunghai University, Taiwan*)

Speaker: Prof. Ping-Chen Chang

Agent-Based Analysis of Network Reliability in Stochastic Flow Networks for E-Commerce Logistics

Wen-Hui Kuo (*National Taiwan University of Science and Technology, Taiwan*)

Ping-Chen Chang (*National Taiwan University of Science and Technology, Taiwan*)

Wednesday, August 5, 13:30 - 15:00

SESSION 4: Advanced Feature Selection and Stacking

Chair: Dr. Kazuhira Okumoto (*Sakura Software Solutions, LLC, USA*)

Speaker: Prof. Kehan Gao

Efficient Hospital Readmission Prediction with Reduced Feature Sets Under Class Imbalance

Kehan Gao (*Eastern Connecticut State University, USA*)

Fatma Pakdil (*Eastern Connecticut State University, USA*)

Steve Muchiri (*Eastern Connecticut State University, USA*)
Garrett Dancik (*Eastern Connecticut State University, USA*)
Ece Pakdil (*University of Connecticut, USA*)
H. Nail Aydin (*Hartford HealthCare and Quinnipiac University, USA*)
Taghi Khoshgoftaar (*Florida Atlantic University, USA*)

Speaker: **Ms. Qianxin Liang ****

TreeSHAP-Guided Feature Selection for Credit Card Fraud Detection

Qianxin Liang (*Florida Atlantic University, USA*)
Chelsea M. Zuvietta (*Florida Atlantic University, USA*)
Taghi Khoshgoftaar (*Florida Atlantic University, USA*)

Speaker: **Prof. Tzong-Ru Tsai**

Stacking Ensemble Method for Air Quality Monitoring in Taiwan

Tzong-Ru Tsai (*National Chin-Yi University of Technology, Taiwan*)
Shao-Yun Kan (*Tamkang University, Taiwan*)

Speaker: **Dr. Kazuhira Okumoto**

ADM: An Agile Development Manager for Early Defect Prediction in Small Software Teams

Kazuhira Okumoto (*Sakura Software Solutions, LLC, USA*)

Wednesday, August 5, 15:15 – 16:45

SESSION 5: Advanced Machine Learning: Techniques and Applications

Chair: Prof. Mengmeng Zhu (*North Carolina State University, USA*)

Speaker: **Prof. Mingchih Chen**

A Two-Stage Attention-Based Deep Learning Model for Predicting Mortality in Hemodialysis Patients

Yen-Chun Huang (*Tamkang University, Taiwan*)
Ming-Hsien Tsai (*Shin Kong Wu Ho Su Memorial Hospital, Taiwan*)
Mingchih Chen (*Fu Jen Catholic University, Taiwan*)

Speakers: **Prof. Kuo-Ping Lin**
Prof. Chih-Yuan Chu

GoogLenet with Squeeze-and-Excite Block Model for Bronchopulmonary Dysplasia Prediction

Ya-Chi Hsu (*Taichung Veterans General Hospital, Taiwan*)
Yu-Chieh Chen (*Tunghai University, Taiwan*)
Kuo-Ping Lin (*Tunghai University, Taiwan*)
Chih-Yuan Chu (*Tunghai University, Taiwan*)

Speaker: **Prof. Thi-Phuong Nguyen**

Reliability of Maritime Transportation Networks under Multistate Sailing Time Conditions

Thi-Phuong Nguyen (*National Chin-Yi University of Technology, Taiwan*)
Thi-Thom Hoang (*National Chin-Yi University of Technology, Taiwan*)

Speaker: **Prof. Mengmeng Zhu**

Review Rating Prediction for Smart Health Monitoring Wearable Devices Using Neural Networks

Rui Wang (*North Carolina State University, USA*)
Jeongsub Choi (*West Virginia University, USA*)
Yaoyao Jia (*The University of Texas at Austin, USA*)
James Bardes (*West Virginia University, USA*)
Bradley S Price (*West Virginia University, USA*)
Mengmeng Zhu (*North Carolina State University, USA*)

Wednesday, August 5, 17:30 – 19:00

SESSION 6 (Virtual): Reliability Models, Methods, and Applications

Chair: Prof. Yoshinobu Tamura (*Yamaguchi University, Japan*)

Speaker: **Prof. Mitsuhiro Imaizumi**

Optimal Monitoring Policies Considering Loss Costs and Detection Errors for Different Types of Server Attacks

Mitsuhiro Imaizumi (*Aichi Gakusen University, Japan*)

Mitsutaka Kimura (*Aichi University, Japan*)

Speaker: **Prof. Mitsutaka Kimura**

Modeling a Data Transmission Scheme for CSMA/CA with Multiple Channel Sensing Attempts

Mitsutaka Kimura (*Aichi University, Japan*)

Mitsuhiro Imaizumi (*Aichi Gakusen University, Japan*)

Toshio Nakagawa (*Aichi Institute of Technology, Japan*)

Speaker: **Ms. Saki Yonezawa ****

Explainable AI for Road Safety: Identifying Hazardous Factors of Traffic Conflicts Using Neural Networks and SHAP Interaction Values

Saki Yonezawa (*Tottori University, Japan*)

Masashi Kuwano (*Tottori University, Japan*)

Yuka Minamino (*Tottori University, Japan*)

Mio Hosoe (*Tottori University, Japan*)

Speaker: **Prof. Yoshinobu Tamura**

OSS Reliability Modeling Based on Sawtooth Wave and Jump Diffusion Process

Yoshinobu Tamura (*Yamaguchi University, Japan*)

Adarsh Anand (*University of Delhi, India*)

Vijay Kumar (*Amity University, India*)

Sunil K. Khatri (*Amity University, India*)

Pramod Kumar Kapur (*Amity University, India*)

Shigeru Yamada (*Tottori University, Japan*)

Wednesday, August 5, 19:00 – 21:00

SESSION 7 (Virtual): Deep Learning and Maintenance Analytics

Chair: Prof. Xufeng Zhao (*Nanjing University of Aeronautics and Astronautics, China*)

Speaker: **Prof. Jing Wu**

Optimal Opportunity-Based Age Replacement Policies for Parallel Systems

Jing Wu (*Huai'an University, China*)

Xufeng Zhao (*Nanjing University of Aeronautics and Astronautics, China*)

Tadashi Dohi (*Hiroshima University, Japan*)

Speaker: **Ms. Zehui Shi ****

Maintenance Planning of Water Distribution Networks Based on Multi-Objective Optimization

Zehui Shi (*Beijing Jiaotong University, China*)

Daqing Gong (*Beijing Jiaotong University, China*)

Gang Xue (*Beijing Jiaotong University, China*)

Speaker: **Dr. Zhongping Li**

Intelligent Self-Healing Collaboration of UAV Swarms Based on Hawkes Processes and Deep Reinforcement Learning

Zhongping Li (*Shandong Jiaotong University, China*)

Qingan Qiu (*Beijing Institute of Technology, China*)

Speaker: **Prof. Jing Wu**

Optimal Replacement Times of Weibull, Gamma and Normal Distributions with the Same Mean, Variance and Median

Jing Wu (*Huai'an University, China*)

Kazunori Iwata (*Aichi University, Japan*)

Xufeng Zhao (*Nanjing University of Aeronautics and Astronautics, China*)

Toshio Nakagawa (*Aichi Institute of Technology, Japan*)

Speaker: **Prof. Xufeng Zhao**

Optimal Replacement Policy under a One-Cycle Criterion with Cumulative Damage

Junhao Liu (*Nanjing University of Aeronautics and Astronautics, China*)

Xiaoyan Zhao (*Nanjing University of Aeronautics and Astronautics, China*)

Xufeng Zhao (*Nanjing University of Aeronautics and Astronautics, China*)

Thursday, August 6, 8:45 - 10:15

SESSION 8: Intelligent Systems: Modeling, Design, and Applications

Chair: Dr. Fengbin Sun (*Tesla Inc., USA*)

Speaker: **Dr. Dmitry Zaytsev**

Trajectory-Aware Reliability Modeling of Democratic Systems

Dmitry Zaytsev (*University of Notre Dame, USA*)
Valentina Kuskova (*University of Notre Dame, USA*)
Michael Coppedge (*University of Notre Dame, USA*)

Speaker: **Prof. Gordon Savage**

Robust Design Tools for Dynamic Systems Using Least-Squares Meta-Models

Gordon J. Savage (*University of Waterloo, Canada*)
Young Kap Son (*Gyeongbuk National University, South Korea*)

Speaker: **Prof. Chih-Ming Tsai**

A Study on Service Quality and User Experience of Self-Checkout Systems: The Applications of KANO Model and IPA

Chih-Ming Tsai (*National Chin-Yi University of Technology, Taiwan*)
Yi-Ju Huang (*National Chin-Yi University of Technology, Taiwan*)
Shu-Yi Hsieh (*National Chin-Yi University of Technology, Taiwan*)
Liang-Yu Chen (*National Chin-Yi University of Technology, Taiwan*)
Hong-ii Syue (*National Chin-Yi University of Technology, Taiwan*)
Chen-Jui Yu (*National Chin-Yi University of Technology, Taiwan*)

Speaker: **Dr. Fengbin Sun**

An Exploration of System Effective Apparent Activation Energy

Fengbin Sun (*Tesla Inc., USA*)

Thursday, August 6, 10:30 - 12:00

SESSION 9: Deep Learning, Maintenance Policies, and Optimization

Chair: Dr. Meng-Hua Li (*National Formosa University, Taiwan*)

Speaker: **Dr. Wei-Teng Sheu**

Optimal Replacement Policies of a System Subject to Shocks with a One Cycle Criterion

Wei-Teng Sheu (*National Chin-Yi University of Technology, Taiwan*)
Shey-Huei Sheu (*Asia University, Taiwan*)
Tsun-Hung Huang (*National Chin-Yi University of Technology, Taiwan*)

Speaker: **Mr. Hsuan-Yu Chen ****

Evaluating Multi-Grade Manufacturing Systems Via Network Reliability Considering Partial Substitution

Hsuan-Yu Chen (*National Yang Ming Chiao Tung University, Taiwan*)
Yi-Kuei Lin (*National Yang Ming Chiao Tung University, Taiwan*)

Speaker: **Mr. Yong-Hao Lin ****

Optimal Replacement Policy for Multi-State Resilient Systems under Non-Fatal Random Shocks

Yong-Hao Lin (*National Taiwan University of Science and Technology, Taiwan*)
Ruey-Huei Yeh (*National Taiwan University of Science and Technology, Taiwan*)

Speakers: **Ms. Nguyen Khanh Hoa Ngo ****
Prof. Ming Chang Chih
Prof. Meng-Hua Li

Towards Real-World CNC Thermal Error Compensation: A Bayesian-Optimized CNN-LSTM Approach and Diagnostic Analysis

Nguyen Khanh Hoa Ngo (*National Formosa University, Taiwan*)

Ming Chang Chih (*National Chung Hsing University, Taiwan*)
Meng-Hua Li (*National Formosa University, Taiwan*)

Thursday, August 6, 17:30 – 19:30

SESSION 10 (Virtual): Reliability Modeling and Optimization

Chair: Dr. Satoshi Mizutani (*Aichi Institute of Technology, Japan*)

Speaker: **Prof. Takahito Araki**

Modeling of Social Integration Policies Considering Differences in Immigrant Intake between Municipalities

Takahito Araki (*Hiroshima University, Japan*)
Mitsutaka Kimura (*Aichi University, Japan*)
Toshio Nakagawa (*Aichi Institute of Technology, Japan*)

Speaker: **Prof. Kazunori Iwata**

Note on Uni-Binomial Distribution for One-Unit Redundant System

Toshio Nakagawa (*Aichi Institute of Technology, Japan*)
Kazunori Iwata (*Aichi University, Japan*)

Speaker: **Dr. Taishin Nakamura**

Optimal Component Assignment in Con/k/n:F Systems with u-out-of-m:F Subsystems

Taishin Nakamura (*Kansai University, Japan*)

Speaker: **Prof. Xufeng Zhao**

Reliability-Quantified Multi-Task Learning: Dual-Head Architectures of Risk-Awareness for EEG Analysis

Wenjuan Wu (*Nanjing University of Aeronautics and Astronautics, China*)
Mohsin Hasan (*Nanjing University of Aeronautics and Astronautics, China*)
Xufeng Zhao (*Nanjing University of Aeronautics and Astronautics, China*)

Speaker: **Mr. Takashi Toyama ****

Proposal and Reliability Evaluation of a Cloud-Based Railway Signalling System with k-out-of-n Logic for Ensuring Safety and Availability

Takashi Toyama (*Tokyo Metropolitan University, Japan*)
Mamoru Ohara (*Tokyo Metropolitan University, Japan*)
Masayuki Arai (*Nihon University, Japan*)
Satoshi Fukumoto (*Tokyo Metropolitan University, Japan*)

Thursday, August 6, 19:30 - 21:30

SESSION 11 (Virtual): Intelligent Agents and Systems: Analytics and Applications

Chair: Prof. Xufeng Zhao (*Nanjing University of Aeronautics and Astronautics, China*)

Speaker: **Dr. Maoyuan Zhou**

A New Interpretation of the Self-Attention Mechanism in Transformers

Maoyuan Zhou (*Civil Aviation University of China, China*)
Xinyu Hu (*Civil Aviation University of China, China*)
Siqi Liu (*Civil Aviation University of China, China*)
Sheng Fu (*Nankai University, China*)
Yonggang Ji (*Civil Aviation University of China, China*)

Speaker: **Prof. Qingan Qiu**

Strategic Reattempt and Abort Decisions for Mission-Critical Systems

Rongchi Sun (*Beijing Institute of Technology, China*)
Qingan Qiu (*Beijing Institute of Technology, China*)
Yike Zhang (*Beijing Institute of Technology, China*)
Rui Ye (*Beijing Institute of Technology, China*)
Xiong Zhang (*Yan'an University, China*)
Zhongping Li (*Shandong Jiaotong University, China*)

Speaker: **Prof. Jian Zhou**

A Hybrid Generative Framework for Overvoltage Fault Detection in Power Batteries of Electric Vehicles

Zhijie Rong (*Nanjing University of Science and Technology, China*)

Yahan Sun (*Nanjing University of Science and Technology, China*)

Jiayou Chen (*Nanjing University of Science and Technology, China*)

Jiawei Xiong (*Nanjing University of Science and Technology, China*)

Miaomiao Zhao (*Yangzhou Yaxing Motor Coach Co., Ltd, China*)

Jian Zhou (*Nanjing University of Science and Technology, China*)

Speaker: **Prof. Qingan Qiu**

Learning to Optimize Abort Thresholds for Multi-Attempt UAV Missions

Yike Zhang (*Beijing Institute of Technology, China*)

Qingan Qiu (*Beijing Institute of Technology, China*)

Rongchi Sun (*Beijing Institute of Technology, China*)

Rui Ye (*Beijing Institute of Technology, China*)

Speaker: **Prof. Yi-Feng Niu**

Reliability for a Multi-State Logistics Network with Demands of Intermediate Nodes

Wenjian Qin (*Chongqing University of Posts and Telecommunications, China*)

Yifeng Niu (*Chongqing University of Posts and Telecommunications, China*)

Xiuzhen Xu (*Chongqing University of Posts and Telecommunications, China*)

Friday, August 7, 7:00 - 8:30

SESSION 12: Reliability, Maintenance, and Optimal Decision-Making

Chair: **Dr. Syouji Nakamura** (*Kinjo Gakuin University, Japan*)

Speaker: **Prof. Nobuyuki Tamura**

Maintenance Problem of a Two-Phase Warranted Product with Decision of an Extended Warranty Period

Nobuyuki Tamura (*Hosei University, Japan*)

Speaker: **Prof. Kazunori Iwata**

Computations of Renewal Functions of Weibull Distribution

Toshio Nakagawa (*Aichi Institute of Technology, Japan*)

Kazunori Iwata (*Aichi University, Japan*)

Speaker: **Dr. Kenichiro Naruse**

Optimal Backup Policy for Systems Against Cyber Threats and Physical Failures

Kenichiro Naruse (*Josai International University, Japan*)

Toshio Nakagawa (*Aichi Institute of Technology, Japan*)

Speaker: **Dr. Syouji Nakamura**

Applications of Triangular Distributions to Maintenance Models

Syouji Nakamura (*Kinjo Gakuin University, Japan*)

Kazunori Iwata (*Aichi University, Japan*)

Toshio Nakagawa (*Aichi Institute of Technology, Japan*)

Friday, August 7, 8:30 – 10:30

SESSION 13: Advanced Reliability and Quality Computing

Chair: **Prof. Florin Popentiu Vladicescu** (*National Univ. of Science and Technology POLITEHNICA Bucharest, Romania*)

Speaker: **Prof. Shinji Inoue**

Modification of Target Failure Measures for Functional Safety Assessment of E/E/Pe Safety-Related Software

Shinji Inoue (*Kansai University, Japan*)

Takaji Fujiwara (*SRATECH Laboratory Inc., Japan*)

Shigeru Yamada (*Tottori University, Japan*)

Speaker: **Ms. Costanza Laura Parlapiano** **

Optimizing Care Pathways for Victims of Violence Against Women in Emergency Departments Through Multi-Criteria Decision-Making

Costanza Laura Parlapiano (*University of Palermo, Italy*)

Silvia Carpitella (*California State University, Northridge, USA*)

Antonella Certa (*University of Palermo, Italy*)

Alice Ilardo

Cinzia Muriana (*University of Palermo, Italy*)

Maria A.L. Zambito (*A.R.N.A.S. CIVICO, Italy*)

Speaker: **Dr. Youn Su Kim**

A Study on Software Reliability Model Considering Fault Content Function and Decreasing Shaped Fault Detection Rate

Kwang Yoon Song (*Chosun University, South Korea*)

Onon-Ujin Otgonbayar (*Chosun University, South Korea*)

Youn Su Kim (*Chosun University, South Korea*)

In Hong Chang (*Chosun University, South Korea*)

Speaker: **Ms. Macy Varga** **

Reaching Consensus in Group Decision-Making for Collaborative Agreement in Business and Academic Environments

Anita Jalili-Kalhari (*California State University, Northridge, USA*)

Macy Varga (*California State University, Northridge, USA*)

Jordan Aviles (*California State University, Northridge, USA*)

Kimberly Aracena (*California State University, Northridge, USA*)

Silvia Carpitella (*California State University, Northridge, USA*)

Speaker: **Prof. Florin Popențiu-Vlădicescu**

Improving Quality in Fog Computing Environments

Grigore Albeanu (*"Spiru Haret" University, Romania*)

Henrik Madsen (*Danish Technical University, Romania*)

Florin Popențiu-Vlădicescu (*National University of Science and Technology "Politehnica" of Bucharest, Romania*)

Friday, August 7, 10:30 – 12:00

SESSION 14: Machine Learning and Maintenance Optimization

Chair: **Prof. Xufeng Zhao** (*Nanjing University of Aeronautics and Astronautics, China*)

Speaker: **Mr. Jiaxuan Zhan** **

RUL Prediction of Aeroengine Gas Path Systems Using Gradient-Enhanced Trajectory-Parameter Ensemble Learning

Jiaxuan Zhan (*Beihang University, China*)

Fanping Wei (*Beihang University, China*)

Xiaobing Ma (*Beihang University, China*)

Speaker: **Mr. Sen-hui Wang** **

Machine Learning with Functional Outputs: A Framework for Power System Reliability Forecasting

Yu Zhou (*Inner Mongolia University, China*)

Sen-hui Wang (*Inner Mongolia University, China*)

Xiang-xia Li (*Inner Mongolia University, China*)

Speaker: **Mr. Yi Chen** **

Multi-Source Driven Opportunistic Group Maintenance Framework for Wind Turbines

Yi Chen (*Beihang University, China*)

Xiaobing Ma (*Beihang University, China*)

Speaker: **Prof. Xufeng Zhao**

Optimum Periodic Incremental Backup Policies with Update Failure at Random Times

Heng Zhao (*Nanjing University of Aeronautics and Astronautics, China*)

Hongshuang Feng (*Nanjing University of Aeronautics and Astronautics, China*)
Xufeng Zhao (*Nanjing University of Aeronautics and Astronautics, China*)

Friday, August 7, 12:00 – 14:00

SESSION 15: Advanced Reliability Modeling
Chair: Prof. Xufeng Zhao (*Nanjing University of Aeronautics and Astronautics, China*)

Speaker: **Mr. Wenxi Li** **

Function Oriented Reliability Design Using Belief Reliability-Enhanced MBSE Method

Wenxi Li (*Beihang University, China*)
Qingyuan Zhang (*Beihang University, China*)
Jian-An Zhang (*Beihang University, China*)
Yi Jin (*Beihang University, China*)
Rui Kang (*Beihang University, China*)

Speaker: **Mr. Yiping Yan** **

Copula-Based Dependence Modeling and Reliability Optimization in Weighted k-out-of-n Systems

Yiping Yan (*Northwest Normal University, China*)
Tiantian Li (*Northwest Normal University, China*)
Rongfang Yan (*Northwest Normal University, China*)
Jiandong Zhang (*Northwest Normal University, China*)

Speaker: **Mr. Man Luo** **

Reliable Longitudinal Control Design for Hypersonic Vehicles in Complex Flight Environments

Man Luo (*Nanjing University of Aeronautics and Astronautics, China*)
Dongjin Wang (*Beijing Aerospace Automatic Control Institute, China*)
Fuyang Chen (*Nanjing University of Aeronautics and Astronautics, China*)

Speaker: **Mr. Zijian Kang** **

Optimal Mission Termination Decisions in Condition-Monitored Systems with Gamma-Process Degradation

Zijian Kang (*Beihang University, China*)
Yu Zhao (*Beihang University, China*)

Speaker: **Mr. Jiaqiang Wang** **

Reliability Modeling of Fixed Frogs in Heavy-Haul Railway System under Dependent Competing Failures

Jiaqiang Wang (*Beijing University of Civil Engineering and Architecture, China*)
Wei Yang (*Beijing University of Civil Engineering and Architecture, China*)
Jinduo Xing (*Beijing University of Civil Engineering and Architecture, China*)

** Denotes Student Speaker



We would like to express our deepest gratitude and thanks to all Authors and Speakers who have enriched this conference with their invaluable knowledge and exceptional research works.

We would also like to express our sincerest thanks to the Conference Committees, Reviewers, and Volunteers. Without your contributions, dedication and hard work, this conference would not have been possible.

We hope this conference serves as a platform for establishing valuable connections and fruitful collaborations for all participants that will extend beyond this event.

Conference Organizer



32nd ISSAT International Conference on
Reliability & Quality in Design



RQD 2027

August 4-6, 2027

Vancouver, BC, Canada