

CONFERENCE PROGRAM

22ND ISSAT INTERNATIONAL CONFERENCE

RELIABILITY and QUALITY in DESIGN

LOS ANGELES, CALIFORNIA, U.S.A. ★ AUGUST 4 – 6, 2016



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Keynote Speaker

Reliability and The Self-Driving Car

Noah Lassar

Google[X]

Abstract: Since the automobile was invented over 100 years ago, engineers worked to make cars safer and more reliable. The 20th century witnessed continuous improvements in automotive reliability, coupled with a dramatic reduction in motor vehicle deaths per year. This was largely due to the development of stronger vehicles, active and passive safety systems, and comprehensive reliability development and test programs to weed out reliability and safety issues before they affected customers. At the same time, the driver --the most unreliable part of the car-- underwent no improvements. Given that 94% of traffic accidents involve human error, this is one place where we believe we can really bring technology to bear. The self-driving car program is aimed squarely at replacing the human driver, and in doing so, making a step function improvement in automotive safety and reliability. Replacing a human driver comes with its share of reliability challenges. But by developing a self-driving vehicle from the ground up, and employing the best design for reliability and reliability test practices, we believe that we will soon live in a world where human-driven cars will seem like a relic of the 20th century.

Biography: Noah Lassar is the Senior Manager of Reliability for the Google[X] Self-Driving Car. Noah also acts as an advisor to Alta Motors, developer of high performance electric motorcycles. Prior to joining Google[X], Noah worked as the Manager of Reliability at Tesla Motors, where he developed and executed the reliability program for Tesla's Model S and the Toyota Rav4 EV. Noah received his Master's degree in Mechanical Engineering from Stanford University in 2004. When Noah is not working on reliability challenges, he enjoys exploring the world with his wife and two children.

Awards

ISSAT RQD 2015 Best Paper Award

Analysis of Fatigue Life of Electronic Package under Thermal Cycling Condition by Acceleration Model

Yao Hsu (*Kainan University, Taiwan*)

Wen-Fang Wu (*National Taiwan University, Taiwan*)

Yi-An Lu (*National Taiwan University, Taiwan*)

ISSAT RQD 2015 Best Student Paper Award

Weibull Lifetime Model Considering Stress-Dependent Parameters

J. Juskowiak (*University of Stuttgart, Germany*)

M. Bartholdt (*University of Stuttgart, Germany*)

B. Bertsche (*University of Stuttgart, Germany*)

Conference at a Glance

THURSDAY, AUGUST 4	FRIDAY, AUGUST 5	SATURDAY, AUGUST 6
8:00 - 9:00 Registration / Continental Breakfast Sierra Foyer A	8:00 - 8:15 Registration / Continental Breakfast Mandarin Foyer	8:15 - 8:30 Registration / Continental Breakfast Mandarin Foyer
9:00 - 9:15 Welcome - Awards Presentation Sierra Ballroom A	8:15 - 9:45 Technical Sessions Salon 6 / Sierra Suite	8:30 - 10:00 Technical Sessions Salon 6 / Sierra Suite
9:15 - 10:00 Keynote Speech Sierra Ballroom A	9:45 - 10:00 Coffee Break Mandarin Foyer	10:00 - 10:15 Coffee Break Mandarin Foyer
10:00 - 10:15 Coffee Break Sierra Foyer A	10:00 - 12:00 Technical Sessions Salon 6 / Sierra Suite	10:15 - 12:15 Technical Sessions Salon 6 / Sierra Suite
10:15 - 12:15 Technical Sessions Sierra Ballroom A / Club Room	12:15 - 1:15 Conference Luncheon Mandarin	12:15 Adjourn!
1:15 - 3:15 Technical Sessions Sierra Ballroom A / Club Room	1:30 - 3:00 Technical Sessions Salon 6 / Sierra Suite	
3:15 - 3:30 Coffee Break Sierra Foyer A	3:00 - 3:15 Coffee Break Mandarin Foyer	
3:30 - 5:30 Technical Sessions Sierra Ballroom A / Club Room	3:15 - 5:15 Technical Sessions Salon 6 / Sierra Suite	
5:45 - 7:30 Welcome Reception Sierra Courtyard		

Technical Sessions at a Glance

	SIERRA BALLROOM A		CLUB ROOM	
Thursday, Aug. 4	Session No.	Title	Session No.	Title
10:15 - 12:15	1	Reliability in Design and Optimization	2	Quality Design and Optimization
1:15 - 3:15	3	Maintenance Policies and Reliability Applications	4	Automotive Reliability & Safety Test
3:30 - 5:30	5	Failure Analysis and Quality & Risk Modeling and Simulation	6	Software Reliability Assessment

	SALON 6		SIERRA SUITE	
Friday, Aug. 5	Session No.	Title	Session No.	Title
8:15 - 9:45	7	Engineering Reliability and Statistics and Applications	8	Software Quality & Reliability Assessment
10:00 - 12:00	9	Software Quality & Security Analytics	10	Maintenance Optimization
1:30 - 3:00	11	System Reliability Modeling	12	Fault Diagnosis, Defect Analysis & Optimization
3:15 - 5:15	13	Quality & Safety Engineering Modeling and Improvement	14	Reliability Analysis and Its Applications

	SALON 6		SIERRA SUITE	
Saturday, Aug. 6	Session No.	Title	Session No.	Title
8:30 - 10:00	15	Reliability Testing & Predictions	16	Statistical Process Modeling and Safety Risk Assessment
10:15 - 12:15	17	Maintenance Optimization and Applications	18	Reliability Modeling and Safety & Risk Assessment

Technical Sessions

SESSION 1: Reliability in Design and Optimization

Chair: Prof. Maxim Finkelstein (*University of the Free State, South Africa*)

Fill Rate: Ensuring Reliability in a Supply Chain

P. Zeephongsekul (*RMIT University, Australia*)
O. Alamri (*RMIT University, Australia*)
B. Abbasi (*RMIT University, Australia*)

Optimal Design of Hybrid Sequential Testing for a System with Mixture of One-shot Units

Elsayed. A. Elsayed (*Rutgers University, USA*)
Yao Cheng (*Rutgers University, USA*)

A Discussion of the Safety Assurance Technology of Highly Complex System in Information Era

Tingdi Zhao (*Beihang University, China*)
Fuchun Ren (*Beihang University, China*)
Jian Jiao (*Beihang University, China*)
Zeyong Jiang (*Beihang University, China*)

An Improved Test Machine for Mechanical Characterization of Linen Fibers: the Turin Shroud Dating

Giulio Fanti (*University of Padua, Italy*)
Roberto Basso (*University of Padua, Italy*)

Populations' Studies Approach to Describing Age and Remaining Lifetime for Populations of Manufactured Items

Maxim Finkelstein (*University of the Free State, South Africa*)

SESSION 2: Quality Design and Optimization

Chair: Prof. B. S. Dhillon (*University of Ottawa, Canada*)

Construction of Process Quality Assessment Model for Ratchet Torque Wrench

Chun-Min Yu (*National Changhua University of Education, Taiwan*)
Tsang-Chuan Chang (*National Chin-Yi University of Technology, Taiwan*)
Kuen-Suan Chen (*National Chin-Yi University of Technology, Taiwan*)
Huo-Tsan Chang (*National Changhua University of Education, Taiwan*)

Effects of Megatrends on Customer-Centric Design

Maytavee Tansrisuwarn (*National University of Singapore, Singapore*)
Thong Ngee Goh (*National University of Singapore, Singapore*)

Development of Robust Design Using Compressed Data

Chien-Chih Lin (*National Tsing Hua Univ., Taiwan*)
Hao-Ting Wei (*National Tsing Hua University, Taiwan*)
Chung-Shou Liao (*National Tsing Hua Univ., Taiwan*)

Monitoring the Log-normal Process using Bootstrap \bar{X} -R Control Charts

Lee-Ing Tong (*National Chiao Tung Univ., Taiwan*)
Chao-Ching Hung (*National Chiao Tung Univ., Taiwan*)
Kai-Wei Su (*National Chiao Tung University, Taiwan*)
Yu-Chiun Wang (*National Chiao Tung Univ., Taiwan*)

Quality In Health Care: An Investigative Study

B. S. Dhillon (*University of Ottawa, Canada*)

SESSION 3: Maintenance Policies and Reliability Applications

Chair: Prof. Wen-Fang Wu (*National Taiwan University, Taiwan*)

Optimal Group Replacement Policy for Multi-Component Systems with Weibull Lifetime Distributions

Ruey-Huei Yeh (*National Taiwan Univ of Sci & Tech, Taiwan*)
Chuan-Wen Chiu (*National Taiwan Univ of Sci & Tech, Taiwan*)
Ya-Han Yu (*National Taiwan Univ of Sci & Tech, Taiwan*)
Wen-Liang Chang (*Cardinal Tien Junior College of Healthcare & Management, Taiwan*)

Some Results on an Optimal Maintenance Policy for a Markovian Deteriorating System Subject to Random Shocks

Nobuyuki Tamura (*Hosei University, Japan*)

Optimization of Preventive Maintenance for a System with Aging Components

Chun-Ho Wang (*National Defense University, Taiwan*)

Chao-Hui Huang (*R.O.C. Naval Academy, Taiwan*)
Yo-Yang Lin (*National Chung-Shan Institute of Science and Technology, Taiwan*)

Songlin Zheng (*University of Shanghai for Science and Technology, China*)
Jinzhi Feng (*University of Shanghai for Science and Technology, China*)
Lihui Zhao (*University of Shanghai for Science and Technology, China*)
Dawei Gao (*University of Shanghai for Science and Technology, China*)

Condition-Based Maintenance in a Bottling Line

Daria Battini (*University of Padua, Italy*)
Sara Mazzon (*University of Padua, Italy*)
Alessandro Persona (*University of Padua, Italy*)
Fabio Sgarbossa (*University of Padua, Italy*)

Reliability Analysis Based on Non-Homogeneous Continuous-Time Markov Modeling with Application to Repairable Pumps of a Power Plant

Yao Hsu (*Kainan University, Taiwan*)
Wen-Fang Wu (*National Taiwan University, Taiwan*)
Tai-Wei Huang (*National Taiwan University, Taiwan*)

SESSION 4: Automotive Reliability & Safety Test

Chair: Prof. Songlin Zheng (*University of Shanghai for Science and Technology, China*)

Reliability Modelling and Assessment of Automotive Transmission Based on Bayesian Networks

Xiaowei Yin (*Shenyang Institute of Engineering, China*)
Wenxue Qian (*Northeastern University, China*)
Qianqian Cao (*Northeastern University, China*)
Liyang Xie (*Northeastern University, China*)

Reduction of Stiffness in Timing Belts: Experimental Tests

Roberto Basso (*University of Padua, Italy*)
Giulio Fanti (*University of Padua, Italy*)

Finite Element Analysis and Fatigue Test of Complex Aluminium Alloy Structural Component

Wenxue Qian (*Northeastern University, China*)
Xiaowei Yin (*Shenyang Institute of Engineering, China*)
Cao Yan (*Northeastern University, China*)
Liyang Xie (*Northeastern University, China*)

Optimal Tuned Mass Damper for a Spar Buoy Floating Wind Turbine to Mitigate Fatigue Damage

Fan-Ming Gong (*Nanyang Technological University, Singapore*)
Sai Hung Cheung (*Nanyang Technological University, Singapore*)

A New Spectrum Development Methodology Based on Pseudo Damage Reserving for Road Load Simulation Test

Jiawei Yu (*University of Shanghai for Science and Technology, China*)

SESSION 5: Failure Analysis and Quality & Risk Modeling and Simulation

Chair: Prof. Bernard C. Jiang (*National Taiwan University of Science & Technology, Taiwan*)

Variable Sample Size Control Chart for Monitoring Process Capability Index

Dja-Shin Wang (*TransWorld University, Taiwan*)
Hau-Yu Yang (*National Chung-Shan Institute of Science and Technology, Taiwan*)
Tong-Yuan Koo (*National Yunlin Univ of Sci & Tech, Taiwan*)

Degradation Prediction of Printed Images

Ziyi Wang (*Rutgers University, USA*)
E. A. Elsayed (*Rutgers University, USA*)

Shock Wave Simulations Using CESE Method

W.-C. Chen (*National Cheng Kung University, Taiwan*)
R.-J. Yang (*National Cheng Kung University, Taiwan*)

A General Method on Establishing Fatigue Test Specification of Torsion Beam Rear Axle

Songlin Zheng (*University of Shanghai for Science and Technology, China*)
Tie Chen (*University of Shanghai for Science and Technology, China*)
Jinzhi Feng (*University of Shanghai for Science and Technology, China*)
Lihui Zhao (*University of Shanghai for Science and Technology, China*)
Dawei Gao (*University of Shanghai for Science and Technology, China*)

Risk Assessment of the Critical Production Process Using a New FMECA Approach: an Application in a Cooking Oil Production Company

Benedictus Rahardjo (*Petra Christian Univ., Indonesia*)
Bernard C. Jiang (*National Taiwan Univ of Sci & Tech, Taiwan*)

SESSION 6: Software Reliability Assessment

Chair: Dr. Yoshinobu Tamura (*Yamaguchi Univ., Japan*)

Qualitative Quality Analysis of Process Factors Based on Software Design Review Record Affecting Software Reliability

Takashi Sato (*NEC Corporation, Japan*)
Shigeru Yamada (*Tottori University, Japan*)

Multi-Release Software Reliability Modeling and Analysis Incorporating Dependent Software Fault Detection Process

Mengmeng Zhu (*Rutgers University, USA*)
Hoang Pham (*Rutgers University, USA*)

Extended Discrete Binomial Software Reliability Models with Test Environment

Shinji Inoue (*Tottori University, Japan*)
Shigeru Yamada (*Tottori University, Japan*)

An Open Source Software Reliability Tool - A Guide for Users

Vidhyashree Nagaraju (*University of Massachusetts Dartmouth, USA*)
Karthik Katipally (*University of Massachusetts Dartmouth, USA*)
Richard Muri (*University of Massachusetts Dartmouth, USA*)
Lance Fiondella (*University of Massachusetts Dartmouth, USA*)
Thierry Wandji (*Naval Air Systems Command, USA*)

Deep Learning Approach for Reliability Assessment of Cloud Software

Yoshinobu Tamura (*Yamaguchi University, Japan*)
Shigeru Yamada (*Tottori University, Japan*)

SESSION 7: Engineering Reliability and Statistics and Applications

Chair: Prof. D. Gary Harlow (*Lehigh University, USA*)

Study on Evaluation Method of Health Grading Based on Grey Clustering Analysis

Jiajing Wang (*Beihang University, China*)
Junyou Shi (*Beihang University, China*)

The Efficiency of the 4-out-of-5 Runs Rules Scheme for Monitoring the Ratio of Population Means of a Bivariate

Normal Distribution

Kim Phuc Tran (*Université de Nantes, France*)
Philippe Castagliola (*Université de Nantes, France*)
Giovanni Celano (*Università di Catania, Italy*)

An On-Demand Bus Model with Single Line and Two Reservation Types

Junji Koyanagi (*Tottori University, Japan*)
Takaya Oseki (*Takadakiko Co., LTD., Japan*)

Additive Manufacturing: Tensile Property Statistics

D. Gary Harlow (*Lehigh University, USA*)

SESSION 8: Software Quality & Reliability Assessment

Chair: Dr. Shinji Inoue (*Tottori University, Japan*)

Statistical Process Control Assessment for Open Source Software and Its Application

Shigeru Yamada (*Tottori University, Japan*)
Masakazu Yamaguchi (*Tottori University, Japan*)

Jump Diffusion Process Model Considering the Optimal Data Partitioning for Cloud with Big Data

Tomoya Takeuchi (*Tottori University, Japan*)
Yoshinobu Tamura (*Yamaguchi University, Japan*)
Shigeru Yamada (*Tottori University, Japan*)

Estimation of Detectable Number of Software Faults Under Budget Constraint

Kenta Hotta (*Tottori University, Japan*)
Shinji Inoue (*Tottori University, Japan*)
Shigeru Yamada (*Tottori University, Japan*)

Discrete Software Reliability Modeling Based on a Discrete Modified Weibull Distribution

Yuki Hosokawa (*Tottori University, Japan*)
Shinji Inoue (*Tottori University, Japan*)
Shigeru Yamada (*Tottori University, Japan*)

SESSIONS 9: Software Quality & Security Analytics

Chair: Prof. Taghi M. Khoshgoftaar (*Florida Atlantic University, USA*)

Effectiveness of the Random Forest Algorithm for Software Quality Classification

Kehan Gao (*Eastern Connecticut State Univ., USA*)
Taghi M. Khoshgoftaar (*Florida Atlantic Univ., USA*)
Amri Napolitano (*Florida Atlantic University, USA*)

Similarity of Feature Subset Selection Methods on Software Metrics Data

Huanjing Wang (*Western Kentucky University, USA*)
Taghi M. Khoshgoftaar (*Florida Atlantic Univ., USA*)
Naeem Seliya (*Health Safety Technologies, LLC., USA*)

Anomaly Detection with Improved Similarity Measure for Satellite Telemetry Data

Datong Liu (*Harbin Institute of Technology, China*)
Shaojun Wang (*Harbin Institute of Technology, China*)
Jing Chen (*Harbin Institute of Technology, China*)
Jun Zhou (*Shanghai Institute of Satellite Engineering, China*)
Yu Peng (*Harbin Institute of Technology, China*)

Detecting Man In The Middle Traffic using Packet Header Information

Maryam M. Najafabadi (*Florida Atlantic Univ., USA*)
Taghi M. Khoshgoftaar (*Florida Atlantic Univ., USA*)
Chad Calvert (*Florida Atlantic University, USA*)
Clifford Kemp (*Florida Atlantic University, USA*)

Capturing Man-in-the-Middle Attack Traffic on a Live Network Environment

Chad Calvert (*Florida Atlantic University, USA*)
Taghi M. Khoshgoftaar (*Florida Atlantic Univ., USA*)
Clifford Kemp (*Florida Atlantic University, USA*)
Maryam M. Najafabadi (*Florida Atlantic Univ., USA*)

SESSIONS 10: Maintenance Optimization

Chair: Dr. Xufeng Zhao (*Qatar University, Qatar*)

Optimal Replacement Policy based on Cumulative Damage for a Two-unit System

Shey-Huei Sheu (*Providence University, Taiwan*)
Tzu-Hsin Liu (*Providence University, Taiwan*)
Zhe-George Zhang (*Western Washington Univ., USA*)
Hsin-Nan Tsai (*Providence University, Taiwan*)

Incremental and Differential Random Backup Policies

Syouji Nakamura (*Kinjo Gakuin University, Japan*)
Miwako Arafuka (*Kinjo Gakuin University, Japan*)
Kazunori Iwata (*Aichi University, Japan*)

Optimal Management Policy for a System in Cloud Computing Environment

Mitsuhiro Imaizumi (*Aichi Gakusen University, Japan*)
Mitsutaka Kimura (*Gifu City Women's College, Japan*)

Which Replacement is Better Before or After a Specified Time for Minimal Repair Models

Mingchih Chen (*Fu Jen Catholic University, Taiwan*)
Xufeng Zhao (*Qatar University, Qatar*)
Toshio Nakagawa (*Aichi Institute of Technology, Japan*)

Replacement Policies for Periodic Damage Models

Xufeng Zhao (*Qatar University, Qatar*)
Khalifa N. Al-Khalifa (*Qatar University, Qatar*)
Abdel Magid Hamouda (*Qatar University, Qatar*)
Toshio Nakagawa (*Aichi Institute of Technology, Japan*)

SESSION 11: System Reliability Modeling

Chair: Dr. Cheng-Fu Huang (*Feng Chia University, Taiwan*)

System Reliability for a Fast Retransmit through Two Separate Quickest Paths under the Time Constraint

Cheng-Fu Huang (*Feng Chia University, Taiwan*)
Yi-Kuei Lin (*National Taiwan University of Science and Technology, Taiwan*)

Effectiveness of Search Keyword Advertising to Provide Tourists Information

Masahide Yamamoto (*Nagoya Gakuin Univ., Japan*)

Sort in Vector Space

Shin-Guang Chen (*Tungnan University, Taiwan*)

System Reliability with Delivery Spoilage and Time Windows for a Multistate Intermodal Logistics Network (MILN)

Cheng-Fu Huang (*Feng Chia University, Taiwan*)
Yu-Chieh Liao (*National Taiwan University of Science and Technology, Taiwan*)
Yi-Kuei Lin (*National Taiwan University of Science and Technology, Taiwan*)

SESSION 12: Fault Diagnosis, Defect Analysis & Optimization

Chair: Prof. Gordon J. Savage (*University of Waterloo, Canada*)

Order Spectrum Based on Generalized Demodulation for Gearbox Fault Diagnosis under Nonstationary Conditions

Xiaowang Chen (*University of Science and Technology Beijing, China*)

Zhipeng Feng (*University of Science and Technology Beijing, China*)

Ming Liang (*University of Ottawa, Canada*)

Variable Neighborhood Search Approaches for Correlated Parallel Machine Scheduling Problems

Yang-Kuei Lin (*Feng Chia University, Taiwan*)

Structure Optimization and Needle Oscillation Analysis of GDI Injector

Xiangdong Kong (*University of Shanghai for Science and Technology, China*)

Zhendong Zhang (*University of Shanghai for Science and Technology, China*)

Congbo Yin (*University of Shanghai for Science and Technology, China*)

Qiang Cheng (*Shanghai Jiao Tong University, China*)

Nailiu Xie (*University of Shanghai for Science and Technology, China*)

Xiaoyan Wang (*University of Shanghai for Science and Technology, China*)

Efficient Stability and Robustness Analysis of Uncertain Nonlinear Systems Using Simulation Data

Young Kap Son (*Andong Nat'l University, Korea*)

Gordon J. Savage (*University of Waterloo, Canada*)

SESSION 13: Quality & Safety Engineering Modeling and Improvement

Chair: Prof. Panlop Zeephongsekul (*RMIT University, Australia*)

Empirical Bayesian Strategy for Sampling Plans with Warranty under Truncated Censoring

Tzong-Ru Tsai (*Tamkang University, Taiwan*)

Y. L. Lio (*University of South Dakota, USA*)

Jyun-You Chiang (*Southwestern University of Finance and Economics, China*)

Improving Tooling Production Efficiency by a Two-Step Assembling Capacity Allocation Strategy

Ya-Ning Yang (*Yuan Ze University, Taiwan*)

Chieh Lee (*Yuan Ze University, Taiwan*)

Impacts of Lean Manufacturing and Six Sigma

Ibrahim Alhuraish (*University of Angers, France*)

Christian Robledo (*University of Angers, France*)

Abdessamad Kobi (*University of Angers, France*)

A Comprehensive Evaluation of the Helicopter Safety Features using AHP and Grey Fuzzy Logic

Dongni Dong (*Beihang University, China*)

Wenjin Zhang (*Beihang University, China*)

Qi Song (*Beihang University, China*)

A Complementary Application of Univariate Process Capability Indices

Denwick Munjeri (*RMIT University, Australia*)

Panlop Zeephongsekul (*RMIT University, Australia*)

Lasitha S. Dharmasena (*Deakin University, Australia*)

SESSION 14: Reliability Analysis and Its Applications

Chair: Prof. Liyang Xie (*Northeastern University, China*)

Reliability Modeling of a Hybrid Assembly System for Dimensional Control

Yinhua Liu (*University of Shanghai for Science and Technology, China*)

Feixiang Ji (*University of Shanghai for Science and Technology, China*)

Xialiang Ye (*University of Shanghai for Science and Technology, China*)

Reliability Analysis Using GO Methodology: A Review

Xiao-jian Yi (*Beijing Institute of Technology, China*)

B. S. Dhillon (*University of Ottawa, Canada*)

Hui-na Mu (*Beijing Institute of Technology, China*)

Research on Compilation Method of Load Spectrum for Cylindrical Shock Absorber Durability Test

Jinzhi Feng (*University of Shanghai for Science and Technology, China*)

Qi Gao (*University of Shanghai for Science and Technology, China*)

Songlin Zheng (*University of Shanghai for Science and Technology, China*)

A Mechanistic Model for Microprocessor Architectural Vulnerability Factor Based on Constraints of Parallelism

Liu Tang (*Beijing University of Technology, China*)

Zhangqin Huang (*Beijing Univ. of Technology, China*)

Time-Dependent Series System and Gear Set Reliability Analysis Method

Liyang Xie (*Northeastern University, China*)

Enjun Bai (*Northeastern University, China*)

Wenxue Qian (*Northeastern University, China*)

Ningxiang Wu (*Northeastern University, China*)

SESSION 15: Reliability Testing & Predictions

Chair: Prof. F. Sgarbossa (*University of Padova, Italy*)

Constraint Test Cases Generation Based on Particle Swarm Optimization

Yunlong Sheng (*Harbin Institute of Technology, China*)
Chang'an Wei (*Harbin Institute of Technology, China*)
Gang Wang (*Harbin Institute of Technology, China*)
Shouda Jiang (*Harbin Institute of Technology, China*)
Yinsheng Chen (*Harbin Institute of Technology, China*)

Applying Machine Learning Approaches to the Recognition of Variance Fault of a Multivariate Process

Yuehjen E. Shao (*Fu Jen Catholic University, Taiwan*)
Shih-Chieh Lin (*Fu Jen Catholic University, Taiwan*)

Sample Size and Error Level for Testing Single Fiber Strength

Ningxiang Wu (*Northeastern University, China*)
Liyang Xie (*Northeastern University, China*)

Reliability Analysis Based on Field Microdowntime Data: A Bottle Production Plant Case Study

D Battini (*University of Padova, Italy*)
A. Celin (*University of Padova, Italy*)
A. Persona (*University of Padova, Italy*)
F. Sgarbossa (*University of Padova, Italy*)
I. Zennaro (*University of Padova, Italy*)

SESSION 16: Statistical Process Modeling and Safety Risk Assessment

Chair: Dr. Feng-Bin Sun (*Tesla Motors, USA*)

Research on Process Reliability Design Method

Xuejun Liu (*Beihang University, China*)
Min Huang (*Beihang University, China*)
Jun Yi (*Beihang University, China*)

Probabilistic Risk Assessment of Drop Accident of Cask with o-ring seal during On-site Spent Nuclear Fuel Transportation

Jaehyun Ham (*Korea Advanced Institute of Science and Technology, Korea*)
Belal Al Momani (*Korea Advanced Institute of Science and Technology, Korea*)
Robby Christian (*Korea Advanced Institute of Science and Technology, Korea*)
Hyun Gook Kang (*Korea Advanced Institute of Science and Technology, Korea*)

Evaluation on the Reliability of Complicated System Based on Mixed Bayes Method

Shang-ru Teng (*Academy of Armored Force Engineering, China*)
Hai-dong Du (*Academy of Armored Force Engineering, China*)
Jin-mao Guo (*Academy of Armored Force Engineering, China*)

Long-Term Life Test Data Modeling and Field Correlation - An HDD Experience

Feng-Bin Sun (*Tesla Motors, USA*)
Yao Zhang (*HGST, a Western Digital Company, USA*)

SESSION 17: Maintenance Optimization and Applications

Chair: Dr. Mahmood Shafiee (*Cranfield University, United Kingdom*)

Software Defect Prediction using Support Vector Machines with Adaptive Particle Swarm Optimization Algorithm

Haonan Tong (*Beihang University, China*)
Bin Liu (*Beihang University, China*)
Shihai Wang (*Beihang University, China*)

Expectation Conditional Maximization Algorithms for Failure count Non-homogeneous Poisson Process Software Reliability Models

Vidhyashree Nagaraju (*University of Massachusetts Dartmouth, USA*)
Anusha Krishna Murthy (*University of Massachusetts Dartmouth, USA*)
Lance Fiondella (*University of Massachusetts Dartmouth, USA*)
Panlop Zeepongsekul (*RMIT University, Australia*)
Thierry Wandji (*Naval Air Systems Command, USA*)

Mining Approximate Dependencies from Diesel Engine Assembling Data with a MILP Model based on Rough Set

Chunyu Gao (*Beihang University, China*)
Wenbing Chang (*Beihang University, China*)
Yiyong Xiao (*Beihang University, China*)
Shenghan Zhou (*Beihang University, China*)

Abrupt Event Oriented Robust Gas Concentration Detection Method of MOX Gas Sensor Arrays

Yinsheng Chen (*Harbin Institute of Technology, China*)
Shouda Jiang (*Harbin Institute of Technology, China*)
Changan Wei (*Harbin Institute of Technology, China*)

Yunlong Sheng (*Harbin Institute of Technology, China*)

Concetta Manuela La Fata (*Università degli Studi di Palermo, Italy*)

A Decision Analysis Model for Maintenance Policy Selection in Multi-unit Systems

Mahmood Shafiee (*Cranfield Univ., United Kingdom*)

SESSION 18: Reliability Modeling and Safety & Risk Assessment

Chair: Prof. Zhenmin Chen (*Florida International Univ., USA*)

Modeling Analysis and Simulation for Equipment Support System of Systems

Biao Xing (*Academy of Armored Force Engineering, China*)

Cheng-ming He (*Academy of Armored Force Engineering, China*)

Shang-ru Teng (*Academy of Armored Force Engineering, China*)

The FTOPSIS Method to Support FMECA Analyses

Silvia Carpitella (*Univ. degli Studi di Palermo, Italy*)

Antonella Certa (*Univ. degli Studi di Palermo, Italy*)

Giacomo Galante (*Univ. degli Studi di Palermo, Italy*)

Joaquín Izquierdo (*Univ. Politècnica de València, Spain*)

Probabilistic Risk Assessment Procedure of an Interim Dry Storage Facility for Spent Nuclear Fuel under Aircraft Strike

Belal Almomani (*Korea Advanced Institute of Science and Technology, Korea*)

Sanghoon Lee (*Keimyung University, Korea*)

Hyun Gook Kang (*Korea Advanced Institute of Science and Technology, Korea*)

Research on Evaluation Method of the Reliability of Phased-mission of Equipment System Based on Agent Simulation

Shang-ru Teng (*Academy of Armored Force Engineering, China*)

Hai-dong Du (*Academy of Armored Force Engineering, China*)

Jin-mao Guo (*Academy of Armored Force Engineering, China*)

Multivariate Uniformity Test Based on Arbitrarily Selected Order Statistics

Zhenmin Chen (*Florida International University, USA*)

**Thank you for contributing and participating
in the 22nd ISSAT RQD conference**

We hope you enjoy the entire program

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