

14th ISSAT International Conference on Reliability and Quality in Design

Tentative Conference Program

Thursday, August 7, 2008

8:00 am Continental Breakfast
8:00 am Registration
9:00am - 9:15 am Opening remarks

Session 1

Thursday, August 7, 9:30 am - 10:45 am

Quality Modeling & Robust Design

Chair: Elsayed A. Elsayed (Rutgers University, USA)

Optimum Production Run Length and Target Value Setting for a Filling Process

Chung-Ho Chen (Southern Taiwan University, Taiwan)

Comparing Taguchi's Crossed Arrays and Combined Arrays for Solving Robust Parameter Problems

Humberto Híjar-Rivera (Instituto Tecnológico de Ciudad Juárez, Mexico)

Victor García-Castellanos (Instituto Tecnológico de Ciudad Juárez, Mexico)

Economic Design of Exponential Chart for Monitoring Time-Between-Event Data under Random Process Shift

H.Y. Zhang (National University of Singapore, Singapore)

M. Xie (National University of Singapore, Singapore)

T.N. Goh (National University of Singapore, Singapore)

M. Shamsuzzaman (National University of Singapore, Singapore)

Session 2

Thursday, August 7, 9:30 am - 10:45 am

Statistical Methods & Their Applications in Reliability

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

Using Human EEG and EMG to Analyze the Design and Reliability of Car Models

Hong Wang (Northeastern University, China)

Mortality Data Analysis, Modeling and Prediction

Hoang Pham (Rutgers University, USA)

Human Error in Shipping: An Investigative Study

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

10:45 am - 11:00 am Break

Session 3

Thursday, August 7, 11:00 am - 12:15 pm

Reliability Optimization & Accelerate Life Testing

Chair: Hong Wang (Northeastern University, China)

Bayesian Design Comparison for Accelerated Life Tests

Haiyan Xu (Shanghai Normal University, China)

Yancai Tang (East China Normal University, China)

Heliang Fei (Shanghai Normal University, China)

Reliability-Based Lifecycle Optimization with Maintenance Consideration

Zhonglai Wang (University of Electronic Science and Technology of China, China)

Xiaoping Du (Missouri University of Science and Technology, USA)

Hongzhong Huang (University of Electronic Science and Technology of China, China)

An ALT Proportional Hazard-Proportional Odds Model

Tingting Huang (Rutgers University, USA)

Elsayed A. Elsayed (Rutgers University, USA)

Tongmin Jiang (Beihang University, China)

Session 4

Thursday, August 7, 11:00 am - 12:15 pm

Quality Measurements & Prediction

Chair: Sang Boo Kim (Changwon National University, Korea)

Monitoring and Measurement – Experience in Implementation of the Requirements from the Item 8.2 of Standard ISO 9001:2000

Radoslav Raković (Energoprojekt-Entel Co. Ltd., Serbia)

Evaluating Process Capability by Fitting Burr Distribution to Multivariate Data

S. Ahmad (RMIT University, Australia)

M. Abdollahian (RMIT University, Australia)

P. Zeepongsekul (RMIT University, Australia)

Wavelet Packet Transform for Motor Current Signature Analysis

Enzo Lau (The Hong Kong Polytechnic University, Hong Kong)

H.W. Ngan (The Hong Kong Polytechnic University, Hong Kong)

Eric T.T. Wong (The Hong Kong Polytechnic University, Hong Kong)

Session 5

Thursday, August 7, 1:30 pm - 2:45 pm

Statistical Reliability & Quality Analysis

Chair: Shigeru Yamada (Tottori University, Japan)

Stochastic Differential Equation Modeling based on Component Importance Levels for Open Source Software Reliability Analysis

Yoshinobu Tamura (Hiroshima Institute of Technology, Japan)

Shigeru Yamada (Tottori University, Japan)

Quantitative Analysis of Software Projects based on Process Monitoring Data

Shigeru Yamada (Tottori University, Japan)

Akihiro Kawahara (Tottori University, Japan)

A Study on Improvement in Abrasion Resistance by Resin Slide Materials of Automotive Rubber Products

Shigeru Yamada (Tottori University, Japan)

Ryoma Takagi (Tottori University, Japan)

Session 6

Thursday, August 7, 1:30 pm - 2:45 pm

Warranty Analysis

Chair: Guangbin Yang (Ford Motor Company, USA)

A Hybrid Algorithm for Failure Detection and Reliability Estimation of Configuration Redundancy Systems

Guibao Wang (Univ. of Electronic Science and Technology of China, China)

Hongzhong Huang (Univ. of Electronic Science and Technology of China, China)

Zhonglai Wang (Univ. of Electronic Science and Technology of China, China)

Renewable Warranty Models using Quasi-renewal Processes

Minjae Park (Rutgers University, USA)

Hoang Pham (Rutgers University, USA)

Prediction of Warranty Performance under Two-Dimensional Coverage

Guangbin Yang (Ford Motor Company, USA)

2:45 pm - 3:15 pm Break

Session 7

Thursday, August 7, 3:15 pm - 5:00 pm

Advanced Statistical Process Control

Chair: Philippe Castagliola (Université de Nantes & IRCCyN UMR CNRS 6597, France)

Joint Control Charts for Monitoring Location and Dispersion

Antonio F. B. Costa (UNESP-Sao Paulo State University, Brazil)

Marcela A. G. Machado (UNESP-Sao Paulo State University, Brazil)

Robustness of Symmetric \bar{X} Charts to Nonnormality and Control-Limit Estimation

Huifen Chen (Chung-Yuan University, Taiwan)

Yuyen Cheng (Chung-Yuan University, Taiwan)

David Goldsman (Georgia Institute of Technology, USA)

Kwok-Leung Tsui (Georgia Institute of Technology, USA)

Bruce W. Schmeiser (Purdue University, USA)

Monitoring the Covariance Matrix with the VMAX Chart

Marcela A. G. Machado (UNESP-Sao Paulo State University, Brazil)

Antonio F. B. Costa (UNESP-Sao Paulo State University, Brazil)

Some Results Concerning the S^2 Chart when the In-Control Variance is Estimated

Philippe Castagliola (Université de Nantes & IRCCyN UMR CNRS 6597, France)

Giovanni Celano (Università di Catania, Italy)

Gemai Chen (University of Calgary, Canada)

Session 8

Thursday, August 7, 3:15 pm - 5:00 pm

Engineering Reliability in Design

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

Consideration for CDM Breakdown and Reliability Designing in the Latest Semiconductor Technology

Nobuyuki Wakai (Toshiba Corporation Semiconductor Company, Japan)

Yuji Kobira (Toshiba Corporation Semiconductor Company, Japan)

Masayoshi Tsutsumi (Toshiba Nanoanalysis Corporation, Japan)

Hidemitsu Egawa (Toshiba Corporation Semiconductor Company, Japan)

Belt Conveyor Driving Drums Fatigue Life Reliability Analysis

Jia Li (Northeastern University, China)

Xiangwei Kong (Northeastern University, China)

Lei Wang (Northeastern University, China)

Liyang Xie (Northeastern University, China)

The Analysis of RF MEMS Switches for Mechanical Reliability

Jianshu Wu (Univ. of Electronic Science and Technology of China, China)

Xiaoming Liu (Univ. of Electronic Science and Technology of China, China)

Zhonggan Zhu (Univ. of Electronic Science and Technology of China, China)

Software Reliability Assessment based on Agile Software Development Metrics

Takaji Fujiwara (Business Cube & Partners, Inc., Japan)

Shigeru Yamada (Tottori University, Japan)

Integrated Probabilistic Design of a Multi-link Mechanism

Gordon J. Savage (University of Waterloo, Canada)

Richard Chen (University of Waterloo, Canada)

5:30 pm - 6:30 pm Welcome Reception

Friday, August 8, 2008

8:00 am Continental Breakfast

8:00 am Registration

Session 9

Friday, August 8, 8:30 am - 10:00 am

Software Reliability & Testing

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

Addressing Class Imbalance in Software Quality Modeling

Naeem Seliya (University of Michigan - Dearborn, USA)

Taghi M. Khoshgoftaar (Florida Atlantic University, USA)

Tradeoffs in Testing Service Oriented Architectures

John C. Sloan (Florida Atlantic University, USA)

Taghi M. Khoshgoftaar (Florida Atlantic University, USA)

Attribute Selection Using Rough Sets in Software Quality Classification

Taghi M. Khoshgoftaar (Florida Atlantic University, USA)

Lofton A. Bullard (Florida Atlantic University, USA)

Kehan Gao (Eastern Connecticut State University, USA)

Testing Web Services as Agents

John C. Sloan (Florida Atlantic University, USA)

Taghi M. Khoshgoftaar (Florida Atlantic University, USA)

Andres Folleco (Florida Atlantic University, USA)

Session 10

Friday, August 8, 8:30 am - 10:00 am

System Reliability in Design

Chair: Liyang Xie (Northeastern University, China)

The Impact of Flexible Pressurized Anchor's Structure to Anchoring System

Yongyan Wang (Qingdao University of Science and Technology, China)

Hongxia Zhang (Qingdao University of Science and Technology, China)

Caihong Yue (Qingdao University of Science and Technology, China)

Shuai Luo (Qingdao University of Science and Technology, China)

Jianguang Li (Qingdao University of Science and Technology, China)

Hao Wang (Liaoning Technical University, China)

Strength Analysis on Aircraft Undercarriage Four-frame Structure

Xuehong He (Northeastern University, China)

Yingjie Zhang (Northeastern University, China)

Mingchuan Zhang (Northeastern University, China)

A Complementary Principle for Reliability Allocation based on Load/Strength Distributions

Liyang Xie (Northeastern University, China)

Jiafu Xu (Northeastern University, China)

Wenqiang Lin (Northeastern University, China)

Reliability Evaluation of a Planetary Gear Box

Jiafu Xu (Northeastern University, China)

Liyang Xie (Northeastern University, China)

10:00 am - 10:30 am Break

Session 11

Friday, August 8, 10:30 am - 11:45 am

Risk Assessments & Inspection Policies

Chair: Victor Zaloom (Lamar University, USA)

Multi-Objective Optimization of a Port-of-Entry Inspection Policy

Christina M. Young (Rutgers University, USA)

Mingyu Li (Rutgers University, USA)

Yada Zhu (Rutgers University, USA)

Minge Xie (Rutgers University, USA)

Elsayed A. Elsayed (Rutgers University, USA)

Tsvetan Asamov (Kenyon College, USA)

A Study of Using Quality Signals to Investigate Information Asymmetry Phenomenon in Banking Industry

Hsiu-Chen Chang (Kaohsiung First Univ. of Science and Technology, Taiwan)

Gow-Liang Huang (Kaohsiung First Univ. of Science and Technology, Taiwan)

Chang-Hsi Yu (Yu Da College of Business, Taiwan)

An Analysis of the Correlation of Expert Opinions in Security Risk Assessment

Vinit Subhedar (Simmons Manufacturing, USA)

Victor Zaloom (Lamar University, USA)

Hsing-wei Chu (Lamar University, USA)

Session 12

Friday, August 8, 10:30 am - 11:45 am

Software Reliability Modeling and Its Applications

Chair: Shigeru Yamada (Tottori University, Japan)

Software Reliability Assessment with Relationships of Inter-Failure Times Before and After Change-Point

Hirofumi Kuwada (Tottori University, Japan)

Shinji Inoue (Tottori University, Japan)

Shigeru Yamada (Tottori University, Japan)

Markovian Software Reliability Modeling with Testing-Effort

Kenta Maehashi (Tottori University, Japan)

Koichi Tokuno (Tottori University, Japan)

Shigeru Yamada (Tottori University, Japan)

A Framework for Two-Dimensional Software Reliability Modeling with Program Size

Shinji Inoue (Tottori University, Japan)

Shigeru Yamada (Tottori University, Japan)

12:00 noon - 1:00 pm Lunch

Session 13

Friday, August 8, 1:30 pm - 2:45 pm

Competing Risk Availability & Optimization

Chair: Panlop Zeepongsekul (RMIT University, Australia)

Availability Optimization of Systems Subject to Competing Risk

E. A. Elsayed (Rutgers University, USA)

Y. Zhu (Rutgers University, USA)

L.Y. Chan (University of Hong Kong, Hong Kong)

Two Generalized Competing Risks Models for Maintenance Analysis

Y. Dijoux (Grenoble University, France)

O. Gaudoin (Grenoble University, France)

Relative Uncertainty of Availability and Failure Frequency for a Few Large, Recursive Networks

Christian Tanguy (Orange Labs (CORE/MCN/OTT), France)

Session 14

Friday, August 8, 1:30 pm - 2:45 pm

Quality Planning and Measurements

Chair: Yi-Kuei Lin (National Taiwan Univ. of Science and Technology, Taiwan)

A Study of the Inventory Models for Perishable Products in Aerospace Industry

Pao-Long Chang (Feng Chia University, Taiwan)

Ying-Chyi Chou (Tunghai University, Taiwan)

Productivity Changes for Human Resources in Science and Technology

Ying-Chyi Chou (Tunghai University, Taiwan)

Pao-Long Chang (Feng Chia University, Taiwan)

The Creeping Deteriorate Approach of TQM Efforts

Cheng-Kang Yuan (Lunghwa University of Science & Technology, Taiwan)

2:45 pm - 3:15 pm Break

Session 15

Friday, August 8, 3:15 pm - 4:45 pm

Transportation Data Analysis

Chair: Mohammed Hadi (Florida International University, USA)

M5P Tree Algorithm for Predicting Lane Clearance Time of Freeway Incidents

Chengjun Zhan (Florida International University, USA)

Albert Gan (Florida International University, USA)

Mohammed Hadi (Florida International University, USA)

Evaluation of Emergency Evacuation Methodologies for an Urban Area by Using Advanced Microscopic Simulator

Scott Parr (Florida Atlantic University, USA)

Demetris Pentaras (Florida Atlantic University, USA)

Evangelos I. Kaisar (Florida Atlantic University, USA)

Delineating Travel Lanes from Satellite Images for Disaster Relief Applications

Hongbo Chi (Florida International University, USA)

Fang Zhao (Florida International University, USA)

Hui Zhao (McMahon Associate, Inc., USA)

David L. Shen (Florida International University, USA)

Combining Service Patrol and Crash Data for Use in Highway Safety and Operational Analyses

Fang Mei (RS&H Associates, Inc., USA)

Sheng Yang (Marline Engineer, USA)

Mohammed Hadi (Florida International University, USA)

Session 16

Friday, August 8, 3:15 pm - 4:45 pm

Process Capability, Bootstrap & Optimization

Chair: Yi-Kuei Lin (National Taiwan Univ. of Science and Technology, Taiwan)

Bootstrap Sequential Fixed-Width Confidence Interval Estimation of Process Capability Index C_{PM}

L. Sandamali Dharmasena (RMIT University, Australia)

P. Zeepongsekul (RMIT University, Australia)

Multi-Process Capability Analysis Chart under Non-normality Using C_{pk}^{WSD} Bootstrap Lower Confidence Limit

Sung Youb Choo (Changwon National University, Korea)

Sang Boo Kim (Changwon National University, Korea)

Jong Kun Kim (Changwon National University, Korea)

Ping Ping Zhai (Changwon National University, Korea)

Economic Specification Limits based on Single Sampling Rectifying Inspection Plan

Chung-Ho Chen (Southern Taiwan University, Taiwan)

Reliability of Motorcycle Components using Systemability Approach

D. Battini (University of Padova, Italy)

M. Faccio (University of Padova, Italy)

A. Persona (University of Padova, Italy)

F. Sgarbossa (University of Padova, Italy)

Saturday, August 9, 2008

8:00 am Continental Breakfast

8:00 am Registration

Session 17

Saturday, August 9, 8:30 am - 9:45 am

Statistical Methods and Their Applications in Engineering

Chair: Zhenmin Chen (Florida International University, USA)

A Time-Dependent Stress-Strength Interference Model with Strength Degradation following a Gamma Process

Zongwen An (Univ. of Electronic Science and Technology of China, China)

Hongzhong Huang (Univ. of Electronic Science and Technology of China, China)

Zhonglai Wang (Univ. of Electronic Science and Technology of China, China)

Sensitivity Analysis on the Reliability of a Stochastic-Flow Network

Shin-Guang Chen (Tungnan University, Taiwan)

Yi-Kuei Lin (National Taiwan Univ. of Science and Technology, Taiwan)

Analyzing Data Sets from Lognormal Distribution when Undetected Observations Present

Zhenmin Chen (Florida International University, USA)

Session 18

Saturday, August 9, 8:30 am - 9:45 am

Reliability in Design: Case Studies

Chair: Giulio Fanti (Università di Padova, Italy)

Hybrid MCDM Analysis of Flexibility Manufacturing Competence and Managerial Performance: A Case Study

Ming-Lang Tseng (Ming-Dao University, Taiwan)

Chi-Horng Liao (Ta-Hwa Institute of Technology, Taiwan)

Yuan-Hsu Lin (Ming-Dao University, Taiwan)

Novel Design of Tunnel Type Biodigesters

Chandra Wahyu Purnomo (Gadjah Mada University, Indonesia)

Ambar Pertiwinigrum (Gadjah Mada University, Indonesia)

Design and MTF Verification of an Improved Tripod for Image Acquisition

Giulio Fanti (Università di Padova, Italy)

Roberto Basso (Università di Padova, Italy)

9:45 am - 10:00 am Break

Session 19

Saturday, August 9, 10:00 am - 11:30 am

Maintenance Modeling and Optimization

Chair: Toshio Nakagawa (Aichi Institute of Technology, Japan)

On an Optimal Maintenance Policy for a Markovian Deteriorating System with Incomplete Information and Uncertain Repair

Nobuyuki Tamura (National Defense Academy, Japan)

Management Policy for Prepayment Risk of a Monetary Facility

Syouji Nakamura (Kinjo Gakuin University, Japan)

Sayori Maeji (Kinjo Gakuin University, Japan)

Toshio Nakagawa (Aichi Institute of Technology, Japan)

Keiko Nakayama (Chukyo University, Japan)

An Imperfect Inspection Problem with an Inspection Threshold

Takashi Satow (Tottori University, Japan)

Hajime Kawai (Tottori University, Japan)

Simple Replacement and Entropy Models

Toshio Nakagawa (Aichi Institute of Technology, Japan)

Syouji Nakamura (Kinjo Gakuin University, Japan)

Sayori Maeji (Kinjo Gakuin University, Japan)

Session 20

Saturday, August 9, 10:00 am - 11:30 am

System Reliability Modeling

Chair: Hoang Pham (Rutgers University, USA)

New Algorithm for the Failure Probability of Strict Circular Consecutive-k-out-of-n:F System

Yoichi Higashiyama (Ehime University, Japan)

Ventsi Rumchev (Curtin University of Technology, Australia)

Design Optimization of a Shock Absorber based on Numerical Simulation

Roberto Basso (Università di Padova, Italy)

Giulio Fanti (Università di Padova, Italy)

Composite Reliability' Models for Systems with Two Distinct Kinds of Stochastic Dependences between their Components' Life Times

Jerzy Filus (Oakton Community College, USA)

Lidia Filus (Northeastern Illinois University Chicago, USA)

Predicting Software Reliability Growth Using Nonparametric Regression

Panlop Zeephongsekul (RMIT University, Australia)

L. Sandamali Dharmasena (RMIT University, Australia)

11:30 am Adjournment