

# **15<sup>th</sup> ISSAT International Conference on Reliability and Quality in Design**

## CONFERENCE PROGRAM

Thursday, August 6, 2009

7:45 a.m. Continental Breakfast

7:45 a.m. Registration

8:45 a.m. - 9:15 a.m. Welcome - Opening remarks

### Session 1

Thursday, August 6, 9:15 a.m. - 10:45 a.m.

Accelerated Life Testing

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

#### **Accelerated Life Tests and Reliability Improvement of Image Intensifier Assembly(KIT-7)**

Sung-Min Kim (Korea Testing Laboratory, Korea)

Jung-Won Park (Korea Testing Laboratory, Korea)

Jung-Keol Ham (Korea Testing Laboratory, Korea)

Gyu-Ro Kim (Kyonggi Institute of Technology, Korea)

Kwang-Youn Kim (VEGATECH, Korea)

#### **Optimal Design of Accelerated Life Testing with Multiple Estimation Objectives using Log-normal Distribution**

Haiyan Xu (Shanghai Normal University, China)

Yincai Tang (East China Normal University, China)

Heliang Fei (Shanghai Normal University, China)

#### **Early Reliability Prediction of Mechatronic Systems in Automotive Industry**

D. Hofmann (Universität Stuttgart, Germany)

M. Kopp (Universität Stuttgart, Germany)

B. Bertsche (Universität Stuttgart, Germany)

M. Wedel (Universität Stuttgart, Germany)

P. Göhner (Universität Stuttgart, Germany)

A. Mannhart (Daimler AG, Böblingen, Germany)

O. Fritz (Daimler AG, Böblingen, Germany)

#### **A Heuristic for Determining Optimum Multiple Stress Accelerated Life Test Plans**

Elsayed A. Elsayed (Rutgers University, U.S.A.)

Michael Koskulics (Rutgers University, U.S.A.)

### Session 2

Thursday, August 6, 9:15 a.m. - 10:45 a.m.

Human Error & Risk Modeling

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

#### **Risk Assessment in Milk Collection and Transport**

Suraj M. Alexander (University of Louisville, U.S.A.)

### **'Microshocks- Microdamages' Type of System Component Interaction; Failure Models**

Jerzy K. Filus (Oakton Community College, U.S.A.)

Lidia Z. Filus (Northeastern Illinois University, U.S.A.)

### **Mortality and Life Expectancy Prediction**

Hoang Pham (Rutgers University, U.S.A.)

### **Human Error in Aviation: An Investigative Study**

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

10:45 a.m. - 11:00 a.m. Coffee Break

### Session 3

Thursday, August 6, 11:00 a.m. - 12:30 p.m.

#### Quality in Design

Chair: Gordon Savage (University of Waterloo, Canada)

### **Multi-Process Capability Analysis Chart for Dependent Non-normal Quality Characteristics**

Sang Boo Kim (Changwon National University, Korea)

Sung Youb Choo (Samsung Techwin Co., LTD, Korea)

### **Quality in Design: Designs of Tactile Guide Paths**

Kin Wai Michael Siu (The Hong Kong Polytechnic University, Hong Kong)

### **Joint Confidence Bounds for the Performance Distribution of a Multi-state System**

Lance Fiondella (University of Connecticut, U.S.A.)

### **Performability Design of Dynamic Systems**

Turuna Seecharan (University of Waterloo, Canada)

Gordon Savage (University of Waterloo, Canada)

### Session 4

Thursday, August 6, 11:00 a.m. - 12:30 p.m.

#### Reliability & Maintainability in Engineering

Chair: Rong Pan (Arizona State University, U.S.A.)

### **Remaining Useful Life Prediction for a Unit under Time-Varying Operating Conditions**

Haitao Liao (University of Tennessee, U.S.A.)

### **Component Replacement Analysis in the Power Industry**

Jose F. Espiritu (The University of Texas at El Paso, U.S.A.)

David W. Coit (Rutgers, The State University of New Jersey, U.S.A.)

### **Optimal Maintenance Strategies for Wind Turbine Systems**

Eunshin Byon (Texas A&M University, U.S.A.)

Lewis Ntamo (Texas A&M University, U.S.A.)

Yu Ding (Texas A&M University, U.S.A.)

### **Reliability of Photovoltaic Modules: An Overview**

Joseph Kuitche (Arizona State University, U.S.A.)

Rong Pan (Arizona State University, U.S.A.)

Govindasamy Tamizhmani (Arizona State University, U.S.A.)

## Session 5

Thursday, August 6, 1:30 p.m. - 3:25 p.m.

Software Reliability Modeling & Its Application

Chair: Shinji Inoue (Tottori University, Japan)

### **Reliability Modeling with Imperfect Debugging based on Stochastic Differential Equation for an Open Source Software**

Yoshinobu Tamura (Yamaguchi University, Japan)

Shigeru Yamada (Tottori University, Japan)

### **Infinite Server Queueing Modeling for Discrete Software Reliability Measurement**

Naoki Iwamoto (Tottori University, Japan)

Shinji Inoue (Tottori University, Japan)

Shigeru Yamada (Tottori University, Japan)

### **Software Reliability Modeling with Changing of Testing-Environment at Change-Point**

Yuichi Tobita (Tottori University, Japan)

Shinji Inoue (Tottori University, Japan)

Shigeru Yamada (Tottori University, Japan)

### **Quality Assurance for Agile Component-Based Software Development**

Alexandru Averian (Spiru Haret University, Romania)

Gheorghe Duda (Spiru Haret University, Romania)

Grigore Albeanu (Spiru Haret University, Romania)

### **Software Reliability Modeling based on PHM Approach in an Infinite Server Queueing Model**

Shinji Inoue (Tottori University, Japan)

Shigeru Yamada (Tottori University, Japan)

## Session 6

Thursday, August 6, 1:30 p.m. - 3:25 p.m.

Quality, Planning & Measurements

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

### **Fast Initial Response Features for GWMA Control Charts based on Observations and Residuals**

Shin-Li Lu (Aletheia University, Taiwan)

Jyh-Wen Ho (Aletheia University, Taiwan)

### **A Study on Cost Distribution with Learning and Forgetting Effects under Competition**

Jyh-Wen Ho (Aletheia University, Taiwan)

Shin-Li Lu (Aletheia University, Taiwan)

### **Exploratory Quality Dimensions of Department Level in Taiwan Technical Higher Education**

Shyi-Huey Wu (Vanung University, Taiwan)

### **Applying Multivariate Batch Modeling to Real Time Process Monitoring**

Tamara Byrne (Umetrics Inc., U.S.A.)

Svante Wold (Umeå University, Sweden)

Nouna Kettaneh-Wold (Umetrics Inc., U.S.A.)

### **Collection and Analysis of Field Data for Design and Quality Improvements**

Amar Thiraviam (Teledyne-ODI, U.S.A.)

Jeremy Lucas (Teledyne-ODI, U.S.A.)

3:25 p.m. - 3:40 p.m. Coffee Break

## Session 7

Thursday, August 6, 3:40 p.m. - 5:40 p.m.

### System Reliability in Design

Chair: Liyang Xie (Northeastern University, China)

#### **Failure-Dependence Mechanism and Copula-based Reliability Model of Structural Systems**

Zhou Jinyu (Jiangsu Teacher's University of Technology, China)

Xie Liyang (Northeastern University, China)

#### **Crack Linkup and Residual Strength of Multi-hole Component**

Ningxiang Wu (Northeastern University, China)

Liyang Xie (Northeastern University, China)

Bo Chen (Beijing Institute of Aeronautical Materials, China)

Jianzhong Liu (Beijing Institute of Aeronautical Materials, China)

#### **Reliability Modeling and Assessment of Isomorphic Multiple Weak Site Component**

Wenxue Qian (Northeastern University, China)

Liyang Xie (Northeastern University, China)

Xiaowei Yin (Shenyang Institute of Engineering, China)

#### **Electroencephalograph Criteria for the Design of Cars**

Hong Wang (Northeastern University, China)

#### **Four-Parameter Model of Component Reliability under Random Load Environment**

Liyang Xie (Northeastern University, China)

Wenxue Qian (Northeastern University, China)

Ningxiang Wu (Northeastern University, China)

## Session 8

Thursday, August 6, 3:40 p.m. - 5:40 p.m.

### Statistical Analysis and Uncertainty Analysis

Chair: Zhenmin Chen (Florida International University, U.S.A.)

#### **Age Replacement Policy with Bayesian Imperfect Repair Model**

Jae-Hak Lim (Hanbat National University, Korea)

Jian Qu (University of Alberta, Canada)

Ming J. Zuo (University of Alberta, Canada)

#### **Reliability-Based Design with Mixed Discrete Deterministic and Continuous Random Variables**

Shunqi Yang (University of Electronic Science and Technology of China, China)

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

Hong-Zhong Huang (University of Electronic Science and Technology of China, China)

Yu Liu (University of Electronic Science and Technology of China, China)

#### **Uncertainty Analysis of Flow Rating Equation for Uncontrolled Submerged Flow over a Spillway**

Walter Z. Tang (Florida International University, U.S.A.)

Fang Wang (Florida International University, U.S.A.)

Fernando Miralles-Wilhelm (Florida International University, U.S.A.)

Emile Damisse (South Florida Water Management District, U.S.A.)

#### **Applying Bayesian Networks to Test-Field Cost Optimization Decisions**

Bahman Honari (University of Limerick, Ireland)

John Donovan (Institute of Technology Sligo, Ireland)

Eamonn Murphy (University of Limerick, Ireland)

## **An Alternative Approach for Goodness-of-Fit Test**

Zhenmin Chen (Florida International University, U.S.A.)

Chunmiao Ye (Florida International University, U.S.A.)

6:00 p.m. - 7:30 p.m. Welcome Reception



Friday, August 7, 2009

7:45 a.m. Continental Breakfast

7:45 a.m. Registration

### Session 9

Friday, August 7, 8:15 a.m. - 9:45 a.m.

Reliability Applications

Chair: Guangbin Yang (Ford Motor Company, U.S.A.)

#### **Inspection and Measurement Errors of Containers at Port-of-Entry**

Yada Zhu (Rutgers University, U.S.A.)

Mingyu Li (Rutgers University, U.S.A.)

Christina M. Young (Rutgers University, U.S.A.)

Minge Xie (Rutgers University, U.S.A.)

Elsayed A. Elsayed (Rutgers University, U.S.A.)

#### **Reliability and Economic Sustainability in a Revamping Process of a Gas Oil Desulphurization Unit**

M. Bevilacqua (Università Politecnica delle Marche, Italy)

F. E. Ciarapica (Università Politecnica delle Marche, Italy)

G. Giacchetta (Università Politecnica delle Marche, Italy)

#### **An Equilibrium of Threshold Policies in a Queueing System with Observable and Unobservable Queues on Arrivals**

Junji Koyanagi (Tottori University, Japan)

Keisuke Yoshida (Sanko Marketing Foods Co. Ltd., Japan)

Hajime Kawai (Tottori University, Japan)

#### **Design for Reliability: A Case Study of Remote Resistance Welding Process**

Guangbin Yang (Ford Motor Company, U.S.A.)

### Session 10

Friday, August 7, 8:15 a.m. - 9:45 a.m.

Stochastic Reliability Modeling

Chair: Kodo Ito (Kinjo Gakuin University, Japan)

#### **Reliability Characteristics of an Asynchronous Replication System Considering the Number of Data Update**

Mitsutaka Kimura (Gifu City Women's College, Japan)

Mitsuhiro Imaizumi (Aichi Gakusen University, Japan)

Toshio Nakagawa (Aichi Institute of Technology, Japan)

### **Optimal Management Policy for a Directory Service System**

Mitsuhiro Imaizumi (Aichi Gakusen University, Japan)

Mitsutaka Kimura (Gifu City Women's College, Japan)

### **Optimal Reorganization Schedule of Structural Database Deterioration**

Syouji Nakamura (Kinjo Gakuin University, Japan)

Keiko Nakayama (Chukyo University, Japan)

Toshio Nakagawa (Aichi Institute of Technology, Japan)

### **Optimal Imperfect Maintenance of Aircraft**

Kodo Ito (Kinjo Gakuin University, Japan)

Toshio Nakagawa (Aichi Institute of Technology, Japan)

9:45 a.m. - 9:55 a.m. Coffee Break

### Session 11

Friday, August 7, 9:55 a.m. - 11:55 a.m.

Engineering Reliability Design and Applications

Chair: D. Gary Harlow (Lehigh University, U.S.A.)

### **Reliability Analysis of Stochastic Structural System for Bus Frame Structure**

Tianxia Zhang (Northeastern University, China)

Guosheng Zhang (Northeastern University, China)

Daqian Zhang (Northeastern University, China)

### **Reliability Study of an Intelligent Transmitter**

Florent Brissaud (Institut National de l'Environnement Industriel et des Risques, France)

Anne Barros (Université de Technologie de Troyes, France)

Christophe Bérenguer (Université de Technologie de Troyes, France)

Dominique Charpentier (Institut National de l'Environnement Industriel et des Risques, France)

### **Study on Numerical Identification of the Nonlinear Chaotic Vibration of a Gear Pair**

Zhe Yuan (Northeastern University, China)

Zhili Sun (Northeastern University, China)

### **The Method of Analyzing the Reliability Sensitivity of Tooth Surface Contact Strength about Spur Gear**

Yanyan Shi (Northeastern University, China)

Zhili Sun (Northeastern University, China)

Feng Mu (Shen Yang Aeroengine Research Institute, China)

Guoquan Li (Shen Yang Aeroengine Research Institute, China)

### **Characterization of Structural Wire under Very High Cycle Fatigue**

D. Gary Harlow (Lehigh University, U.S.A.)

### Session 12

Friday, August 7, 9:55 a.m. - 11:55 a.m.

Quality-Oriented Software Management & Statistical Analysis

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

### **A Study on Statistical Analysis of Process Monitoring Data for Software Process Improvement**

Akihiro Kawahara (Tottori University, Japan)

Shigeru Yamada (Tottori University, Japan)

**Quality Planning Drives to Product Quality**

Nikola Vujanovic (Q-Expert Consulting, Serbia)  
Miodrag Vukovic (Conseko d.o.o., Serbia)  
Vojislav Bozanic (Organizational Sciences, Serbia)

**A Study on Product Quality Prediction and Development-Period Estimation based on Software Process Data**

Shigeru Yamada (Tottori University, Japan)  
Tomoki Yamashita (Tottori University, Japan)

**Improvement in Software Projects by Process Monitoring and Quality Evaluation Activities**

Toshihiko Fukushima (Nissin Systems Co., Ltd., Japan)  
Shigeru Yamada (Tottori University, Japan)

**A New Analysis Concept in Application of Software Reliability Growth Models**

Takaji Fujiwara (Business Cube & Partners, Inc., Japan)  
Shigeru Yamada (Tottori University, Japan)

12:00 p.m. - 1:00 p.m. Luncheon

**Session 13**

Friday, August 7, 1:15 p.m. - 2:30 p.m.  
Engineering Statistics & Reliability Prediction  
Chair: P. Zeepongsekul (RMIT University, Australia)

**Joint Distribution Decomposition for the Reliability Analysis of Systems with Correlated Failures**

Lance Fiondella (University of Connecticut, U.S.A.)

**A Modified Block Replacement Aspect for a k-out-of-n System**

Minjae Park (Rutgers University, U.S.A.)  
Hoang Pham (Rutgers University, U.S.A.)

**A Nonparametric Regression Software Reliability Growth Model Based on Two Estimators**

Toh Bin Yii (RMIT University, Australia)  
P. Zeepongsekul (RMIT University, Australia)

**Session 14**

Friday, August 7, 1:15 p.m. - 2:30 p.m.  
Testing Modeling  
Chair: Jawsin Su (Chinese Culture University, Taiwan)

**Hair Beauty Marketing Orientation by Balanced Scorecard Application**

Ming-Chein Wu (Chienkuo Technology University, Taiwan)  
Hsiu-Chin Huang (Chienkuo Technology University, Taiwan)  
Yu-Lin Wei (Chienkuo Technology University, Taiwan)  
Ching-San Chiang (Chienkuo Technology University, Taiwan)

**Modern Menu Classics of Vegetarian Restaurant in Research - LOHAS Orient**

Lang-Roy Chiou (Chienkuo Technology University, Taiwan)  
Chin-Hung Chen (Chienkuo Technology University, Taiwan)  
Ching-San Chiang (Chienkuo Technology University, Taiwan)

**Backflush Model for Sequential Test and its Applications**

Heng-Sheng Chen (Chinese Culture University, Taiwan)  
Hau-Dong Tsui (Chinese Culture University, Taiwan)  
Jaw-Sin Su (Chinese Culture University, Taiwan)

## Session 15

Friday, August 7, 2:40 p.m. - 3:55 p.m.

Reliability Analysis & Optimization

Chair: Lidia Z. Filus (Northeastern Illinois University, U.S.A.)

### **A Symbolic Reliability Formula using SDP Method for Weighted-k-out-of-n System**

Yoichi Higashiyama (Ehime University, Japan)

Xu Cai (Ehime University, Japan)

Ventsi Rumchev (Curtin University of Technology, Australia)

### **BDD-Based Reliability Analysis of Phased-Mission System with Periodical Phase**

Haipeng Zhu (University of Electronic Science and Technology of China, China)

Hong-Zhong Huang (University of Electronic Science and Technology of China, China)

Yu Liu (University of Electronic Science and Technology of China, China)

### **Consideration of Operating Environment when Optimizing Spare Parts Inventories**

Behzad Ghodrati (University of Toronto, Canada)

Uday Kumar (Luleå University of Technology, Sweden)

## Session 16

Friday, August 7, 2:40 p.m. - 3:55 p.m.

Statistical Assessments in Beauty Science

Chair: Ching-San Chiang (Chienkuo Technology University, Taiwan)

### **The Effect of English Teaching in Department of Styling and Cosmetology**

Yu-lin Wei (Chienkuo Technology University, Taiwan)

Pei-lin Wu (Chienkuo Technology University, Taiwan)

### **Trend Analysis of International Beauty Certificate—A Case Study of Students from the Department of Beauty Science at Chienkuo Technology University**

Hsiu-Chin Huang (Chienkuo Technology University, Taiwan)

Ming-Chieh Wu (Chienkuo Technology University, Taiwan)

Shu-Er Yang (Chienkuo Technology University, Taiwan)

### **A Study on the Importance of Bride Secretaries' Ability and Competition**

Pei-Ling Wu (Chienkuo Technology University, Taiwan)

Ching-Toung Wu (Chienkuo Technology University, Taiwan)

Hurdy Su (SUSUSING Co., Ltd., Republic of South Africa)

3:55 p.m. - 4:10 p.m. Coffee Break

## Session 17

Friday, August 7, 4:10 p.m. - 5:40 p.m.

Maintenance Optimization

Chair: Takashi Satow (Tottori University, Japan)

### **An Optimal Maintenance Policy of a Production Process with Two Types of Inspections**

Nobuyuki Tamura (National Defense Academy, Japan)

Ken-Ichi Hayashi (National Defense Academy, Japan)

Tetsushi Yuge (National Defense Academy, Japan)

Shigeru Yanagi (National Defense Academy, Japan)

### **Random Checking Times of Backup Operation for a Database System**

Kenichiro Naruse (Nagoya Sangyo University, Japan)

Toshio Nakagawa (Aichi Institute of Technology, Japan)

Sayori Maeji (Kinjo Gakuin University, Japan)

### **Random and Age Replacement Policies**

Mingchih Chen (Chaoyang University of Technology, Taiwan)  
Satoshi Mizutani (Aichi Institute of Technology, Japan)  
Toshio Nakagawa (Aichi Institute of Technology, Japan)

### **An Inspection Threshold for Two-Components Systems**

Takashi Satow (Tottori University, Japan)  
Hajime Kawai (Tottori University, Japan)

### Session 18

Friday, August 7, 4:10 p.m. - 5:40 p.m.

Software Reliability & Testing

Chair: Taghi M. Khoshgoftaar (Florida Atlantic University, U.S.A.)

### **Cost-Based Fault Prediction Models**

Naeem Seliya (University of Michigan - Dearborn, U.S.A.)  
Taghi M. Khoshgoftaar (Florida Atlantic University, U.S.A.)

### **An Evaluation of Feature Selection Techniques with Various Software Quality Classification Models**

Kehan Gao (Eastern Connecticut State University, U.S.A.)  
Taghi M. Khoshgoftaar (Florida Atlantic University, U.S.A.)  
Lofton A. Bullard (Florida Atlantic University, U.S.A.)

### **Predicting Software Reliability Growth Using Bootstrap Nonparametric Fixed-width Confidence Intervals**

L. Sandamali Dharmasena (RMIT University, Australia)  
P. Zeephongsekul (RMIT University, Australia)

### **Monitoring Ocean Turbines: A Reliability Assessment**

P. P. Beaujean (Florida Atlantic University, U.S.A.)  
T. M. Khoshgoftaar (Florida Atlantic University, U.S.A.)  
J. C. Sloan (Florida Atlantic University, U.S.A.)  
N. Xirosoy (Florida Atlantic University, U.S.A.)  
D. Vendittis (Florida Atlantic University, U.S.A.)



Saturday, August 8, 2009

7:45 a.m. Continental Breakfast

7:45 a.m. Registration

### Session 19

Saturday, August 8, 8:15 a.m. - 10:15 a.m.

Service Engineering & OSS Reliability

Chair: Koichi Tokuno (Tottori University, Japan)

### **Stochastic Differential Equation Modeling based on Component Importance Levels and Optimal Version-upgrade Problem for OSS**

Tomoaki Tanaka (Tottori University, Japan)  
Yoshinobu Tamura (Yamaguchi University, Japan)  
Shigeru Yamada (Tottori University, Japan)

### **Generalized Markovian Software Reliability Modeling and Its Approximation**

Takahiro Koderu (Tottori University, Japan)  
Koichi Tokuno (Tottori University, Japan)  
Shigeru Yamada (Tottori University, Japan)

### **Markovian Performability Modeling for Hardware-Software System**

Junichi Takahashi (Tottori University, Japan)  
Koichi Tokuno (Tottori University, Japan)  
Shigeru Yamada (Tottori University, Japan)

### **A Method of Reliability Assessment based on Bayesian Network for an Embedded Open Source Software**

Hidemitsu Takehara (Tottori University, Japan)  
Yoshinobu Tamura (Yamaguchi University, Japan)  
Shigeru Yamada (Tottori University, Japan)

### **Joint Determination of Economic Manufacturing Quantity and Control Limits of X-Bar Control Chart**

Chung-Ho Chen (Southern Taiwan University, Taiwan)

### **Session 20**

**Saturday, August 8, 8:15 a.m. - 10:15 a.m.**

**Reliability Applications**

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

### **Co-Simulation of Dynamic Behaviors of the High Speed Flexible Rotor**

Xiangwei Kong (Northeastern University, China)  
Zhongyong Luo (Northeastern University, China)  
Shu-mei Li (Eastern Liaoning University, China)

### **The Application of Non-homogeneous Poisson Process in Tractors Reliability Model**

Changlin Ao (Northeast Agricultural University, China)  
Yazhuo Zhang (Northeast Agricultural University, China)  
Yijun Li (Harbin Institute of Technology, China)

### **Analysis of Statistical Features for Potential Strength Increment of Structural Steel in Auto Industry**

Songlin Zheng (University of Shanghai for Science and Technology, China)  
Li Li (University of Shanghai for Science and Technology, China)  
Jinzhong Feng (University of Shanghai for Science and Technology, China)  
Feng Yuan (University of Shanghai for Science and Technology, China)  
Yinyi Wang (University of Shanghai for Science and Technology, China)

### **The Strategic Role of Spare Parts Availability and Facility Location on Maintenance in Industrial Systems**

Riccardo Manzini (University of Bologna, Italy)  
Filippo Bindi (University of Bologna, Italy)  
Emilio Ferrari (University of Bologna, Italy)  
Mauro Gamberi (University of Bologna, Italy)  
Cristina Mora (University of Bologna, Italy)  
Arrigo Pareschi (University of Bologna, Italy)  
Alberto Regattieri (University of Bologna, Italy)

### **Numerical Calculation of Large-Sized Linear Vibration Screener and Modal Analysis of Real Type and Model**

Yongyan Wang (Qingdao University of Science and Technology, China)  
Hongxia Zhang (Qingdao University of Science and Technology, China)  
Shuai Luo (Qingdao University of Science and Technology, China)  
Caihong Yue (Qingdao University of Science and Technology, China)  
Xin He (Qingdao Hongda Textile Machinery Co., Ltd., China)

10:15 a.m. - 10:30 a.m. Coffee Break

## Session 21

Saturday, August 8, 10:30 a.m. - 12:30 p.m.

System Reliability Modeling

Chair: Tongdan Jin (Texas A&M International University, U.S.A.)

### **Electricity Distribution Systems Optimization Using Evolutionary Algorithms**

Sowmya Parimi (The University of Texas at El Paso, U.S.A.)

Jose F. Espiritu (The University of Texas at El Paso, U.S.A.)

### **Multi-Objective Network Reliability Optimization using Evolutionary Algorithms**

Oswaldo Aguirre (University of Texas at El Paso, U.S.A.)

Delia Villanueva (University of Texas at El Paso, U.S.A.)

Heidi Taboada (University of Texas at El Paso, U.S.A.)

### **Quantifying and Controlling Hard Disk Drive Reliability Through Parametric Monitoring During Product Ongoing Reliability Test**

Feng-Bin Sun (Western Digital Corporation, U.S.A.)

Eve Ou (Western Digital Corporation, U.S.A.)

Shaoang Zhang (Western Digital Corporation, U.S.A.)

### **Reliability Sensitivity Analysis and Parametric Design on Connecting Rod of Reciprocating Compressor**

Pengfei Chen (Northeastern University, China)

Zhili Sun (Northeastern University, China)

### **The Dialectic of the Development of Customer Satisfaction Index Model for Taiwan Service Industries**

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

Chuan-Yin Lee (Lunghwa University of Science & Technology, Taiwan)

### **Some Advances in Uncertainty Analysis of Complex System Reliability Estimations**

Tongdan Jin (Texas A&M International University, U.S.A.)

Peng Wang (Hamilton Sundstrand Power Systems, U.S.A.)

### **Two Imperfect Maintenance Modellings for Systems Presenting a Burn-in Period**

Yann Dijoux (University of Strathclyde, Glasgow)

## Session 22

Saturday, August 8, 10:30 a.m. - 12:30 p.m.

Quality Planning and Measurements

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

### **Multistate Network Reliability Optimization for a Computer Network under Resources Assignments**

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

Cheng-Ta Yeh (National Taiwan University of Science and Technology, Taiwan)

### **Design and Deployment of a Mobile Sensor Network for the Surveillance of Nuclear Materials in Metropolitan Areas**

Jerry Cheng (Rutgers University, U.S.A.)

Minge Xie (Rutgers University, U.S.A.)

Fred Robert (Rutgers University, U.S.A.)

### **Identification of Climate Cycles from Volatile Time Series of Solar Radiation in PV System Design**

Shin-Guang Chen (Tungnan University, Taiwan)

Ya-Sian Wang (Tungnan University, Taiwan)

Yu-Min Xue (Tungnan University, Taiwan)

Wen-Hao You (Tungnan University, Taiwan)

Jian-You Lin (Tungnan University, Taiwan)  
Kai-Wei Xu (Tungnan University, Taiwan)

**The Routing Policy Problem of a Stochastic Flow Network**

Yi-Kuei Lin (National Taiwan University of Science and Technology, Taiwan)  
Kung-Chi Li (Vanung University, Taiwan)

**Throughput Estimation in a Picker-to-Part Warehouse with a Multiple Picker and Blocking Considerations**

Jason Chao-Hsien Pan (Takming University of Science and Technology, Taiwan)  
Ming-Hung Wu (Cardinal Tien College of Healthcare & Management, Taiwan)

**Optimal Software Release Problems Based on the Technique of Project Management**

Toshiyuki Toyota (Tottori University, Japan)  
Shigeru Yamada (Tottori University, Japan)

**Implementation of Modified FMEA Method into the Process of Logistic Support to Bus Life Cycle**

Vladimir Popovic (University of Belgrade, Serbia)  
Branko Vasic (University of Belgrade, Serbia)  
Ivan Blagojevic (University of Belgrade, Serbia)  
Dejan Curovic (University of Belgrade, Serbia)

12:30 p.m. Adjournment

