

CONFERENCE CHAIRS

Hoang Pham  
Rutgers University

Shigeru Yamada  
Tottori University

PROGRAM CHAIRS

Yi-Kuei Lin  
National Taiwan University  
of Science and Technology

Guangbin Yang  
Ford Motor Company

ARRANGEMENTS CHAIR

Zhenmin Chen  
Florida International University

PROGRAM COMMITTEE MEMBERS

Philippe Castagliola	France
Philip L. Y. Chan	Hong Kong
Chung-Ho Chen	Taiwan
Zhenmin Chen	USA
Chun-Yuan Cheng	Taiwan
Ching-San Chiang	Taiwan
B. S. Dhillon	Canada
E. A. Elsayed	USA
Takaji Fujiwara	Japan
Olivier Gaudoin	France
D. Gary Harlow	USA
Hong-Zhong Huang	China
Rui Kang	China
Kailash C. Kapur	USA
Taghi M. Khoshgoftaar	USA
Won Kyung Kim	Korea
Mitsuhiro Kimura	Japan



# 16<sup>TH</sup> ISSAT INTERNATIONAL CONFERENCE ON RELIABILITY and QUALITY in DESIGN WASHINGTON D.C., U.S.A. ★ AUGUST 5 – 7, 2010

Bengt Klefsjo	Sweden
Yi-Kuei Lin	Taiwan
Anatoly Lisnianski	Israel
R. B. Misra	India
Toshio Nakagawa	Japan
Syouji Nakamura	Japan
Stavros G. Papastavridis	Greece
Arrigo Pareschi	Italy
Dong Ho Park	Korea
Sang Jun Park	Korea
Alessandro Persona	Italy
Hoang Pham	USA
Gordon J. Savage	Canada
A. K. Sinha	India
Hurdy Su	South Africa
Robert M. Szabo	USA
Yoshinobu Tamura	Japan
Koichi Tokuno	Japan
Nikola Vujanovic	Serbia
Hongzhou Wang	USA
Eric T. T. Wong	Hong Kong
Liyang Xie	China
Min Xie	Singapore
Shigeru Yamada	Japan
Guangbin Yang	USA
Panlop Zeephongsekul	Australia

CONFERENCE SPONSOR



The International Society of Science  
and Applied Technologies  
[www.issatconferences.org](http://www.issatconferences.org)

IN COOPERATION WITH  
IEEE Reliability Society, USA

SUPPORTER



[www.optiy.eu](http://www.optiy.eu)

# Thursday, August 5, 2010

8:00 am Registration - Continental Breakfast

9:00 am - 9:30 am Welcome - Opening Remarks

Awards Presentation

9:30 am - 10:45 am

## SESSION 1

### Human Error & Field Assessments

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

Effects of Preventive Maintenance Parameters on Manufacturing Equipment Operational Performances  
*Antonio C. Caputo (University of Roma Tre, Italy)*  
*Pacifico M. Pelagagge (University of L'Aquila, Italy)*  
*Paolo Salini (University of L'Aquila, Italy)*

Mathematical Systemability Function Approximations  
*Hoang Pham (Rutgers University, USA)*

Human Error in Power Plant Maintenance:  
An Investigative Study  
*B.S. Dhillon (University of Ottawa, Canada)*

## SESSION 2

### Quality Engineering & Assurance

Chair: Sung-Min Kim (*Korea Testing Laboratory, Korea*)

Optimization Design of the SPRT Control Chart  
*Yanjing Ou (Nanyang Technological University, Singapore)*  
*Zhang Wu (Nanyang Technological University, Singapore)*

The Effect of Data Correlation to Process Capability Indices in Position Tolerancing  
*Marko E. Leinonen (Nokia Oyj, Finland)*

Study on Network Reliability Based Carrier Selection Problem for Stochastic Logistics Network  
*Yi-Kuei Lin (National Taiwan University of Science & Technology, Taiwan)*  
*Cheng-Ta Yeh (National Taiwan University of Science & Technology, Taiwan)*

10:45 am - 11:00 am **Coffee Break**

11:00 am - 12:15 pm

## SESSION 3

### Accelerate Testing

Chair: Guangbin Yang (*Ford Motor Company, USA*)

Reliability Modeling And Accelerated Life Testing Of Capacitive Humidity Sensors  
*Sung-Min Kim (Korea Testing Laboratory, Korea)*  
*Kwang-Min Lee (Korea Testing Laboratory, Korea)*  
*Jung-Won Park (Korea Testing Laboratory, Korea)*  
*Woo-Sub Lee (Korea Testing Laboratory, Korea)*  
*Jung-Keol Ham (Korea Testing Laboratory, Korea)*  
*Jeong-Hwan Cho (Kimpo University, Korea)*

Transitioning to Physics of Failure Reliability Assessments for Electronics  
*James G. McLeish (DfR Solutions, USA)*

Test Time Reduction for Lognormal Distribution  
*Guangbin Yang (Ford Motor Company, USA)*

## SESSION 4

### Software Reliability & Engineering Statistics

Chair: Panlop Zeepongsekul (*RMIT University, Australia*)

On the Application and Its Problems of Recent Development Processes for Highly Reliable and Safe Software  
*Takaji Fujiwara (Business Cube & Partners, Inc., Japan)*  
*Mitsuhiro Kimura (Hosei University, Japan)*  
*Shigeru Yamada (Tottori University, Japan)*

The Run Rules  $\bar{X}$  Chart with Estimated Parameters  
*Ying Zhang (IRCCyN / Ecole Centrale de Nantes, France)*  
*Philippe Castagliola (Universit'e de Nantes & IRCCyN, France)*

Maximum Entropy Principle Approach to Discrete Software Reliability Modeling  
*Panlop Zeepongsekul (RMIT University, Australia)*

1:15 pm - 3:00 pm

## SESSION 5

### Reliability Modeling and Testing

Chair: Feng-Bin Sun (*Western Digital Corporation, USA*)

Bias Correction For The Shape Parameter Of Weibull Distribution In Generalized Linear Model  
*Huirui Guo (ReliaSoft Corporation, USA)*  
*Adamantios Mettas (ReliaSoft Corporation, USA)*

An Application of Causal Inference for Observational Data in Hard Disk Drive Failure Analysis  
*Shaoang Zhang (Western Digital Corporation, USA)*  
*Eve Ou (Western Digital Corporation, USA)*  
*Alvin Limando (Hotel Gran Puri Manado, Indonesia)*

Methodology of Component Reliability Optimization in Hard-Disk Drives  
*Alexander Parkhomovsky (Western Digital Corporation, USA)*  
*Robert M. Pelstring (Seagate Technology, USA)*

Test Sample Size Determination Based on Probability of Decisions  
*Jiliang Zhang (Hewlett-Packard Co., USA)*

Application of An Empirical Growth Model in Predicting Hard Disk Drive Field Warranty Returns  
*Shaoang Zhang (Western Digital Corporation, USA)*  
*Feng-Bin Sun (Western Digital Corporation, USA)*  
*Ross Gough (Western Digital Corporation, USA)*

## SESSION 6

### Software Reliability Modeling and Its Application

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

Optimal Release Problem and Reliability Analysis for the OSS Porting Phase of Embedded System Development  
*Hiroki Kato (Tottori University, Japan)*  
*Yoshinobu Tamura (Yamaguchi University, Japan)*  
*Shigeru Yamada (Tottori University, Japan)*

Software Reliability Measurement with Change-Point  
by Using Environmental Factor

*Shinya Ikuta (Tottori University, Japan)*

*Shinji Inoue (Tottori University, Japan)*

*Shigeru Yamada (Tottori University, Japan)*

Two-Dimensional Software Reliability Growth Modeling with  
Effect of Change-Point

*Keisuke Fukuma (Tottori University, Japan)*

*Shinji Inoue (Tottori University, Japan)*

*Shigeru Yamada (Tottori University, Japan)*

A Dependent Competing Risk Model with Multiple Degradation  
Processes and Random Shocks using Constant Copulas

*Yaping Wang (Rutgers University, USA)*

*Hoang Pham (Rutgers University, USA)*

Optimal Software Release and Change-Point Problems  
of Software Systems

*Shinji Inoue (Tottori University, Japan)*

*Shigeru Yamada (Tottori University, Japan)*

**3:00 pm - 3:15 pm Coffee Break**

3:15 pm - 5:15 pm

## SESSION 7

### Engineering Applications

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

Use of Computer Simulation in Measurement Process  
of Automobile Body

*Yinzhong Jiang (Beijing Automotive Technology Center, China)*

*Kai Yang (Wayne State University, USA)*

Inspection Allocation Cost Model for Serial Assembly Systems

*D. Battini (University of Padova, Italy)*

*M. Faccio (University of Padova, Italy)*

*A. Persona (University of Padova, Italy)*

*F. Sgarbossa (University of Padova, Italy)*

Maximizing the Transmitted Flow and Topology Optimization  
for Repairable Flow Networks without Cycles

*Michael T. Todinov (Oxford Brookes University,*

*United Kingdom)*

Load-Roughness' Impact on Reliability Considering  
Dependent Failure

*Ying Wu (Northeastern University, China)*

*Liyang Xie (Northeastern University, China)*

Statistics of Fatigue Crack Growth in Fastener Holes

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

## SESSION 8

### Quality Planning & Measurements I

Chair: *Yi-Kuei Lin*

*(National Taiwan University of Science & Technology, Taiwan)*

A TRIZ-based Systematic Innovation Product Design Process:  
A Preliminary Study

*Chun-Ming Yang (Ming Chi University of Technology, Taiwan)*

*Ching-Han Kao (Ming Chi University of Technology, Taiwan)*

*Thu-Hua Liu (Ming Chi University of Technology, Taiwan)*

Evaluating Performance Efficiencies between National  
Medical Resource Inputs and Population Health Care Quality  
in Taiwan

*Chieh-Yu Liu (National Taipei College of Nursing, Taiwan)*

*Han-Ru Tan (National Taiwan University of Science &  
Technology, Taiwan)*

The Determination of Optimal Reliability Improvement Level  
and Warranty Length for Reused Products

*Rouh-Yun Yu (MingChuan University, Taiwan)*

*Huei-Chiung Lo (Tamkung University, Taiwan)*

Constructing a 3D Database for the Design of a Better Fitted  
Quarter Mask

*Hsiang-Yi Lee (Nanhua University, Taiwan)*

*Yi-Hsueh Yang (Logistic Technology Co., Ltd, Taiwan)*

Optimum Profit Model for Determining Purchaser's Order  
Quantity and Producer's Process Mean

*Chung-Ho Chen (Southern Taiwan University, Taiwan)*

Network Reliability Based Component Assignment Problem  
by Using Genetic Algorithm and Minimal Cuts

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

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

**5:30 pm - 7:00 pm Welcome Reception**

## Friday, August 6, 2010

8:00 am Registration/Continental Breakfast

8:30 am - 10:00 am

## SESSION 7

### System Integration & Modeling

Chair: *Xuemei Zhang (AT&T Labs, USA)*

Integrated Use of Reliability-relevant Information and  
Knowledge in Product Development of Mechatronics

*D. Hofmann (University of Stuttgart, Germany)*

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

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

Reliability Analysis of Systems with Negatively Correlated  
Components

*Lance Fiordella (University of Connecticut, USA)*

On Designing Highly Secure Embedded Systems

*Junji Koyanagi (Tottori University, Japan)*

*Grigore Albeanu (Spiru Haret University, Romania)*

*Gheorghe Duda (Spiru Haret University, Romania)*

*Niculae Stancu-Mara (SMD Ltd., Romania)*

Integrated Models for System Reliability and Security  
Evaluation

*Xuemei Zhang (AT&T Labs, USA)*

*Hoang Pham (Rutgers University, USA)*

*Carolyn R. Johnson (AT&T Labs, USA)*

## SESSION 10

### Maintenance & Reliability in Design

Chair: N V R Naidu (*M S Ramaiah Institute of Technology, India*)

Tools Design of the Experimental Design Training for Learning and Comprehension of Experimental Design Towards Automotive Industry

*Fauzia Dianawati (University of Indonesia, Indonesia)*

*Isti Surjandari (University of Indonesia, Indonesia)*

*Arian Dhini (University of Indonesia, Indonesia)*

*Artado Parulian (University of Indonesia, Indonesia)*

Operational Reliability of Tractor Engines Based on Non-homogeneous Poisson Process

*Changlin Ao (Northeast Agricultural University, China)*

*Yijun Li (Harbin Institute of Technology, China)*

Determining Minimum Survey Sample Size for Multi-Cell Case

*Zhenmin Chen (Florida International University, USA)*

*Fang Zhao (Florida International University, USA)*

A Six Sigma Approach for Enhancing the Productivity and Determination of the Optimal Policy for Preventive Maintenance through Mathematical Models

*N V R Naidu (M S Ramaiah Institute of Technology, India)*

### 10:00 am - 10:15 am Coffee Break

10:15 am - 11:45 am

## SESSION 11

### Software Reliability and Testing

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

A Feature Selection Strategy for Software Quality Modeling

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

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

*Amri Napolitano (Florida Atlantic University, USA)*

A Hybrid Approach for Software Fault Prediction

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

*Lofton A. Bullard (Florida Atlantic University, USA)*

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

*Huanjing Wang (Western Kentucky University, USA)*

A Novel Strategy for Enhancing Software Quality Models

*Huanjing Wang (Western Kentucky University, USA)*

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

*Amri Napolitano (Florida Atlantic University, USA)*

## SESSION 12

### Stochastic Reliability Modeling

Chair: Takashi Satow (*Tottori University, Japan*)

Monotone Properties of an Optimal Maintenance Policy for a Two-state POMDP Model with Multiple Observations

*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)*

A Summary of Backup Models for Database Systems

*Syouji Nakamura (Kinjo Gakuin University, Japan)*

*Keiko Nakayama (Chukyo University, Japan)*

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

An Inspection Threshold of Bivariate Failure Distribution

*Takashi Satow (Tottori University, Japan)*

*Hajime Kawai Hajime Kawai (Tottori University, Japan)*

Note on MTTF of a Parallel System

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

*Won Young Yun (Pusan National University, Korea)*

### 12:00 noon – 1:00 pm Conference Luncheon

1:30 pm - 3:00 pm

## SESSION 13

### Service Engineering and Quality Management

Chair: Koichi Tokuno (*Tottori University, Japan*)

Generalized Framework for Markovian Software Availability Modeling and Its Approximation

*Shinya Ikegami (Tottori University, Japan)*

*Koichi Tokuno (Tottori University, Japan)*

*Shigeru Yamada (Tottori University, Japan)*

Markovian Performability Evaluation for Software System with Random Performance Degradation and Imperfect Debugging

*Satoshi Murakami (Tottori University, Japan)*

*Koichi Tokuno (Tottori University, Japan)*

*Shigeru Yamada (Tottori University, Japan)*

A Study on Improvement in Quality and Operator Productivity for the Production Process of Automotive Rubber Products

*Naofumi Wada (Tottori University, Japan)*

*Shigeru Yamada (Tottori University, Japan)*

Reliability Analysis Based on Hazard Rates Considering Several Components for the Embedded OSS

*Yoshinobu Tamura (Yamaguchi University, Japan)*

*Shigeru Yamada (Tottori University, Japan)*

## SESSION 14

### System Reliability in Design

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

Reliability Analysis of Unstiffened Aluminum Panels with Multiple Site Damage

*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 Assessment of Escalator based on Bayesian Networks

*Wenxue Qian (Northeastern University, China)*

*Liyang Xie (Northeastern University, China)*

*Xiaowei Yin (Shenyang Institute of Engineering, China)*

A Three-Stage-Model for Fatigue Damage Considering Load Sequences Effect

*Xuehong He (Northeastern University, China)*

*Tao Chen (Northeastern University, China)*

*Jia Li (Northeastern University, China)*

An Approach to Evaluate Probabilistic Fatigue Life of Complex Structures

*Liyang Xie (Northeastern University, China)*

*Ningxiang Wu (Northeastern University, China)*

*Wenxue Qian (Northeastern University, China)*

### 3:00 pm - 3:15 pm Coffee Break

3:15 pm - 5:15 pm

### SESSION 15

#### Maintenance & Reliability Applications

Chair: R. Basso (University of Padova, Italy)

Strength and Modality Analysis on Structure of Rear Sub-Frame of a Fuel Cell Vehicle

*Song-lin Zheng (University of Shanghai for Science and Technology, China)*

*You-tao Wang (University of Shanghai for Science and Technology, China)*

*Yin-yi Wang (University of Shanghai for Science and Technology, China)*

*Jin-zhi Feng (University of Shanghai for Science and Technology, China)*

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

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

Serial Correlation in Perfilagem Variables

*Suzana Leitão Russo (Federal University of Sergipe, Brazil)*

*Maria Emilia Camargo (University of Caxias of South, Brazil)*

*Evelyn Souza Chagas (Federal University of Sergipe, Brazil)*

*Vitor Hugo Simon (Petrobras, Brazil)*

Fault-Tree Based Reliability Approach for Distribution System Analysis

*Fariz Abdul Rahman (University of Michigan, USA)*

*Athi Varuttamaseni (University of Michigan, USA)*

*Thomas Briley (University of Michigan, USA)*

*Hauku Asgeirsson (DTE Energy Company, USA)*

*Nicholas Carlson (DTE Energy Company, USA)*

*Teresa Tran (DTE Energy Company, USA)*

*Michael Kintner-Meyer (Pacific Northwest National Laboratory, USA)*

*John C. Lee (University of Michigan, USA)*

Workforce-constrained Maintenance Scheduling for Aircraft Fleet: A Case Study

*Nima Safaei (University of Toronto, Canada)*

*Dragan Banjevic (University of Toronto, Canada)*

*Andrew K.S. Jardine (University of Toronto, Canada)*

Vibration Analysis of Rotogravure Printing Press to Improve Print Quality

*R. Basso (University of Padova, Italy)*

*G. Fanti (University of Padova, Italy)*

*P. Gottardelli (Mondadori Printing S.p.A., Italy)*

### SESSION 16

#### Reliability and Analysis of Ocean Systems

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

Combining Wavelet and Fourier Transforms in Reliability Analysis of Ocean Systems

*Randall Wald (Florida Atlantic University, USA)*

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

*Pierre-Philippe Beaujean (Florida Atlantic University, USA)*

*John C. Sloan (Florida Atlantic University, USA)*

A Review of Prognostics and Health Monitoring Techniques for Autonomous Ocean Systems

*Randall Wald (Florida Atlantic University, USA)*

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

*Pierre-Philippe Beaujean (Florida Atlantic University, USA)*

*John C. Sloan (Florida Atlantic University, USA)*

Mining and Storing Data Streams for Reliability Analysis

*Janell Duhaney (Florida Atlantic University, USA)*

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

*Ankur Agarwal (Florida Atlantic University, USA)*

*John C. Sloan (Florida Atlantic University, USA)*

Applications of Data Fusion in Monitoring Inaccessible Ocean Machinery

*Janell Duhaney (Florida Atlantic University, USA)*

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

*Ionut Cardei (Florida Atlantic University, USA)*

*Bassem Alhalabi (Florida Atlantic University, USA)*

*John C. Sloan (Florida Atlantic University, USA)*

Formalizing Fault Trees for Remote Ocean Systems

*John C. Sloan (Florida Atlantic University, USA)*

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

*Howard Hanson (Florida Atlantic University, USA)*

## Saturday, August 7, 2010

8:00 am Registration/Continental Breakfast

8:30 am - 10:30 am

### SESSION 17

#### Reliability Modeling

Chair: Yoichi Higashiyama (Ehime University, Japan)

Similar Modal Analysis of Model and Prototype of the Vibrating Screener

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

*Zerong Zhang (Qingdao University of Science and Technology, China)*

An Equilibrium of Threshold Policies of Two Types of Customers in a System with Observable and Unobservable Queues on Arrivals

*Junji Koyanagi (Tottori University, Japan)*

*Hajime Kawai (Tottori University, Japan)*

Bandwidth Selection for Estimating the Mean Residual Life Function

*Chathuri Lakshika Jayasinghe (RMIT University, Australia)*

*Panlop Zeephongsekul (RMIT University, Australia)*

Reliability Analysis of Systems with Competing Propagated Failures and Failure Isolation Effect

*Liudong Xing (University of Massachusetts Dartmouth, USA)*

*Gregory Levitin (University of Electronic Science and Technology of China, China)*

*Prashanthi Boddu (University of Massachusetts Dartmouth, USA)*

*Tailiang Song (University of Massachusetts Dartmouth, USA)*

Fast Method to Compute the Reliability of Consecutive  $k$ -out-of- $r$ -from- $n$ :F System under the Condition of  $r < 2k$

*Yoichi Higashiyama (Ehime University, Japan)*

*Jian Zhuo Chang (Ehime University, Japan)*

*Ventsi Rumchev (Curtin University of Technology, Australia)*

## SESSION 18

### Quality Engineering

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

The Comparative Study of The Flow of Trucks in The Ports of Uruguaiana and Foz de Iguauçu

*Suzana Leitão Russo (Federal University of Sergipe, Brazil)*

*Maria Camargo (University of Caxias do Sul, Brazil)*

*Jonas Pedro Fabris (Fabris Industry, Brazil)*

*Pelayo Olea Munhoz (University of Caxias do Sul, Brazil)*

*Rejane Klidzio (URI, Santo Angelo, Brazil)*

Quality Improvement in Water Drinking Process:

A Response Surface Method

*Isti Surjandari (University of Indonesia, Indonesia)*

*Fauzia Dianawati (University of Indonesia, Indonesia)*

*Zuanastia (University of Indonesia, Indonesia)*

A Rough-Set-Based Approach to Selecting Elements Critical to Overall Customer Satisfaction

*Ali Ahmady (Wichita State University, USA)*

*Don Malzahn (Wichita State University, USA)*

*S. Hossein Cheraghi (Western New England College, USA)*

Construction Xbar and Coefficients of Variation Charts:

A Case Study of an Textile Industry

*Maria Camargo (University of Caxias do Sul, Brazil)*

*Walter Priesnitz Filho (Instituto Federal Faroufilha, Brazil)*

*José Mauricio Carré Maciel (University of Caxias do Sul, Brazil)*

*Fernanda da Rosa Nagib Murr (University of Caxias do Sul, Brazil)*

*Suzana Leitão Russo (Federal University of Sergipe, Brazil)*

*Angela Isabel dos Santos Dullius (Federal University of Santa Maria, Brazil)*

*Eric Dorion (University of Caxias do Sul, Brazil)*

Quality Assurance in Project Management – Practical Experience

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

### 10:30 am - 10:45 am Coffee Break

10:45 am - 1:00 pm

## SESSION 19

### Reliability Analysis & Applications

Chair: Zhenmin Chen (*Florida International University, USA*)

Calculating RPN Index in FMEA Table by Fuzzy Expert Systems

*M. Taherkhani (Iran Khodro Corporation, Iran)*

*R. Ghodsi (University of Tehran, Iran)*

*S.F. Quarashi (University of Tehran, Iran)*

*M. Piltan (University of Tehran, Iran)*

*A. Amirkhani (Iran Khodro Corporation, Iran)*

*G. Salemi (Iran Khodro Corporation, Iran)*

Complete Sequence Generation Algorithm for Reliability Analysis of Dynamic Systems with Sequence-Dependent Failures

*Monika Shrestha (University of Massachusetts Dartmouth, USA)*

*Liudong Xing (University of Massachusetts Dartmouth, USA)*

*Haiping Xu (University of Massachusetts Dartmouth, USA)*

Common Coefficient of Variation and Reliability Estimators in Two Parameter Exponential Distribution

*Nurten Biyikli (Rider University, USA)*

*Mohammad Ahsanullah (Rider University, USA)*

Semi-Markov Process Model for the Availability Analysis of Practical Ssystems

*Arun Veeramany (University of Waterloo, Canada)*

*Mahesh D. Pandey (University of Waterloo, Canada)*

Quality Improvement of Printing Output Standard by Setting Combination

*Arian Dhini (University of Indonesia, Indonesia)*

*Isti Surjandari (University of Indonesia, Indonesia)*

*Fauzia Dianawati (University of Indonesia, Indonesia)*

*Madema Lasro Siregar (University of Indonesia, Indonesia)*

Software Defect Prediction with Skewed Data

*Naeem Seliya (University of Michigan - Dearborn, USA)*

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

## SESSION 20

### Quality Planning & Measurements II

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

Comparison of the Radial Basis Function and Ordinary Kriging Model in the Design of Dynamic Systems

*Turuna S. Seecharan (University of Waterloo, Canada)*

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

The Performance of Multivariate GWMA Control Charts for Autocorrelation Data

*Shin-Li Lu (Aletheia University, Taiwan)*

*Wen-Chih Chiu (Aletheia University, Taiwan)*

Economic-Statistical Design of EWMA  $\chi^2$  Control Charts for Monitoring Process Variability

*Wen-Chih Chiu (Aletheia University, Taiwan)*

*Shin-Li Lu (Aletheia University, Taiwan)*

A Study on the Reliability Test Model

*Jyh-Wen Ho (Aletheia University, Taiwan)*

Search for All Minimal Paths with Backtracking

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

*Yu-Cheng Guo (Tungnan University, Taiwan)*

*Wei-Zhi Zhou (Tungnan University, Taiwan)*

A Balance Scorecard Approach for the Quality Evaluation of Taiwan's Higher Education

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

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

*Hui-Rong Qiu (Lunghwa University of Science & Technology, Taiwan)*

An Application of Service-Learning in the "Enterprise Ethics and Business Etiquette" Course — A Case Study in a Technological University

*Tzoo-yuh Chen (Vanung University, Taiwan)*

*Mei-chun Chen (Vanung University, Taiwan)*

1:00 pm Adjourn!