Thursday, July 26, 2012
8:00 am - Registration - Continental Breakfast
9:00 am - 9:15 am Welcome - Opening Remarks
Awards Presentation
9:15 am - 9:50 am Keynote Speech
Customer-Perceived Software Reliability: Overview
Kazu Okumoto, (Alcatel-Lucent)

10:00 am - 12:00 noon
SESSION 1
Reliability & Analysis of Ocean Systems
Chair: Taghi M. Khoshgoftaar (Florida Atlantic University, USA)
A Novel Baseline-Differencing Approach for Creating Generalizable Reliability Models of Ocean Turbine Behavior
Randall Wald (Florida Atlantic University, USA)
Taghi M. Khoshgoftaar (Florida Atlantic University, USA)
Bassem Alhalki (Florida Atlantic University, USA)
Reliability Prediction System using Bayesian Network
Kei Imazawa (Hitachi, Ltd., Japan)
Y. Katsumura (Hitachi, Ltd., Japan)
K. Kurogi (Hitachi Global Storage Technologies Japan, Ltd., Japan)
M. Douwaki (Hitachi Global Storage Technologisl Japan, Ltd., Japan)
Approaches to Sensitivity Analysis for System Reliability Study of Smart Structures for Active Vibration Reduction
Ying Li (Technische Universität Darmstadt, Germany)
Thomas Pfeiffer (Reliability LBF, Germany)
Jürgen Nuffer (Reliability LBF, Germany)
Joachim Dös (Technische Universität Larmstadt, Germany)
Holger Hanselka (Reliability LBF, Germany)
Combining Line Sampling and Saddlepoint Approximation for Reliability Sensitivity Analysis
S.E. Song (Northwestern Polytechnical University, China)
Z.Z. Lu (Northwestern Polytechnical University, China)
L.Y. Li (Northwestern Polytechnical University, China)
Fusion of Wavelet Transform Features for Reliable Fault Detection within an Ocean Turbine MCM System
Janel Duhamey (Florida Atlantic University, USA)
Taghi M. Khoshgoftaar (Florida Atlantic University, USA)
Randall Wald (Florida Atlantic University, USA)
Pierre P. Beaufjean (Florida Atlantic University, USA)

SESSION 2
Human Error Analysis & Reliability Prediction
Chair: B.S. Dhillon (University of Ottawa, Canada)
The Underlying Driving Forces of Continuous Probability Density and Distribution Functions
Zhigang Wei (Tenneco, Inc., USA)
D. Gary Harlow (Lehigh University, USA)
Burt Lin (Tenneco, Inc., USA)
Fulun Yang (Tenneco, Inc., USA)
New Method for Weighted-\_k-out-of-\_n System using SDP
Yoichi Higashiyama (Ehime University, Japan)
Vereti Runchev (Curtin University of Technology, Australia)
Systemability With Loglog Distributions
Hoang Pham (Rutgers University, USA)
A Taxonomy System to Identify Human Error Causes for Software Defects
Furmin Huang (Beihang University, China)
Bin Liu (Beihang University, China)
Ring Huang (Beihang University, China)
Human Error in Road Transportation Systems: An Investigative Study
B.S. Dhillon (University of Ottawa, Canada)

1:30 pm - 3:00 pm
SESSION 3
System Reliability Modeling
Chair: Anatoly Lisinski (The Israel Electric Corporation, Ltd, Israel)
Reliability Evaluation for a Multi-Line Production System with Reworking Actions
Ping-Chen Chang (National Taiwan University of Science & Technology, Taiwan)
Yi-Kuei Lin (National Taiwan University of Science & Technology, Taiwan)
Combinatorial Reliability Analysis of Warm-Standby Systems with Imperfect Fault Coverage
O. Tannous (University of Massachusetts, USA)
L. Xing (University of Massachusetts, USA)
R. Peng (University of Science & Technology, China)
M. Xie (City University of Hong Kong, Hong Kong)
Total Life Approach Based Creep-Fatigue Oxidation Modeling
Zhigang Wei (Tenneco, Inc., USA)
Fulun Yang (Tenneco, Inc., USA)
Burt Lin (Tenneco, Inc., USA)
Limin Luo (Tenneco, Inc., USA)
Dmitri Konson (Tenneco, Inc., USA)
Reliability Assessment for Aging Multi-state Systems under Stochastic Demand by Using L_2-transform
A. Lisinski (The Israel Electric Corporation, Ltd, Israel)

SESSION 4
Software Reliability
Chair: Kehan Gao (Eastern Connecticut State University, USA)
A Comparative Study of Sampled Feature Ranker Ensembles for Software Quality Classification
Taghi M. Khoshgoftaar (Florida Atlantic University, USA)
Kehan Gao (Eastern Connecticut State University, USA)
Lotfen A. Bullard (Florida Atlantic University, USA)
On Ranking Software Growth Models by Subjective Data Analysis
G. Albuia (Spiriu Haret University, Romania)
G. I. Duda (Spiriu Haret University, Romania)
Fl. Popescu-Flaicea (University of Oradea, Romania)
A Method of Complex Software System Reliability Allocation Based on ANP
Gang Wei (Academy of Armored Forces Engineering, China)
Li Xu (North Huguang photovoltaic Ltd., China)
Huan-kun Wang (Academy of Armored Forces Engineering, China)

Impact of Data Sampling on Feature Selection Techniques for Software Defect Prediction
Kihan Gao (Eastern Connecticut State University, USA)
Taghi M. Khoshgoftaar (Florida Atlantic University, USA)
Amri Napolitano Amri Napolitano (Florida Atlantic University, USA)

3:00 pm - 3:15 pm  Coffee Break

3:15 pm - 5:15 pm  SESSION 5

Computer System Reliability Modeling and Maintenance Policies
Chair: Koichi Tokuno (Tottori University, Japan)

Optimal Times of Deadlock Detection Schedule
Syoji Tsuchiura (Kinki Gakuin University, Japan)
Xufeng Tian (Aichi Institute of Technology, Japan)
Toshio Nakagawa (Aichi Institute of Technology, Japan)

A Method of Reliability Assessment based on Stochastic Differential Equation Model for a Cloud Open Source Software
Yoshinobu Tamura (Yamaguchi University, Japan)
Shigeru Yamada (Tottori University, Japan)

A Summary of Newly Proposed Age Replacement Policies
Xuteng Zhao (Aichi Institute of Technology, Japan)
Toshio Nakagawa (Aichi Institute of Technology, Japan)

Bayesian Network Modeling for Dynamic Fault Tree
Tetsuji Yuge (National Defense Academy, Japan)
Shigeru Yanagi (National Defense Academy, Japan)

Software Performability Evaluation based on Markovian Reliability Model with Systemability
Toshinori Fukuda (Tottori University, Japan)
Koichi Tokuno (Tottori University, Japan)
Shigeru Yamada (Tottori University, Japan)

SESSION 6

Maintenance, Degradation Modeling & Prediction
Chair: Guangbin Yang (Chrysler Group LLC)

A Coscore Statistic for Monitoring Degradation Paths
Michelle Mancanindo (Arizona State University, USA)
Rong Pan (Arizona State University, USA)

Condition Based Maintenance of Wind Power Generation Systems Considering Different Turbine Types and Lead Times
Fangfang Ding (Concordia University, Canada)
Zhigang Tian (Concordia University, Canada)
Aheer Amayri (Concordia University, Canada)

Use of Critical Index as a Method of Management, Planning and Control of the Maintenance in an Oil Refining Plant
M. Benilungu (Università Politecnica delle Marche, Italy)
F. E. Ciarapica (Free University of Bolzano-Rozen, Italy)
G. Mazzu (Università Politecnica delle Marche, Italy)
L. Postacchini (Free University of Bolzano-Rozen, Italy)

Dynamic Modeling of Two-stage Gearbox for Condition Monitoring
Yonglin Ren (Concordia University, Canada)
Zhigang (Wiih) Tian (Concordia University, Canada)

Optimal Design of Degradation Tests for Reliability Demonstration
Guangbin Yang (Ford Motor Company, USA)

5:30 pm - 7:00 pm  Welcome Reception

Friday, July 27, 2012
E:00 am  Registration - Continental Breakfast

8:30 am - 10:00 am  SESSION 7
Reliability Analysis & Its Applications
Chair: Gary Harlow (Lehigh University, USA)

Influence of the Human Body on the Characteristics of A Pedestrian Bridge
Shiqiao Gan (Beijing Institute of Technology, China)
Dong Wang (Beijing Institute of Technology, China)
Lei Jin (Beijing Institute of Technology, China)

Investigating the Factors Affecting the Development of a National Accreditation Body in North Africa
Tarik Elsmair (Nottingham Trent University, United Kingdom)
Chris McCollin (Nottingham Trent University, United Kingdom)

A Method of Arc Welding Robot Pose Precision Reliability Analysis Based on Six Parameters
Jia Li (Northeastern University, China)
Yunnan Tang (Northeastern University, China)

Lei Xu (Northeastern University, China)
Shuai Chiu (Northeastern University, China)
Peng Zhao (Northeastern University, China)
Mei Su (Northeastera University, China)
Xuehong He (Northeasterna University, China)

Teardown Data: Particle Distributions
D. Gary Harlow (Lehigh University, USA)

SESSION 8
Quality Design & Optimization
Chair: N.V.R. Naidu (M.S.Ramaiah Institute of Technology, India)

A Single CUSUM Chart for Monitoring Time Interval and Magnitude of Critical Events
Liang Qu (Nanyang Technological University, Singapore)

Overall Design and Quality Improvement of Equipment Based on Virtual Prototype
Xue-zheng Zhu (Chemical defence Institute, China)
Li Xu (North Huguang photovoltaic Ltd, China)
Qing-jun Meng (Academy of Armored Forces Engineering, China)
Estimating Capability Index in Multivariate Processes Using Bootstrap Sequential Sampling Procedures
L. Sandamali Dharmasena (Deakin University, Australia)
P. Zeephongsekul (RMIT University, Australia)
M. Abdolalian (RMIT University, Australia)
Development of Mathematical Model to Determine the Optimal Tolerance for Quality Improvement through Taguchi Loss Function
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 9
Reliability of Complex Systems
Chair: Liudong Xing (University of Massachusetts - Dartmouth, USA)
System Reliability Optimization Considering Uncertain Future Operating Conditions and Usage Stresses
Nida Chatwattanasin (Rutgers University, USA)
David W. Colt (Rutgers University, USA)
Mark Rodgers (Rutgers University, USA)
Gonglin Dong (Rutgers University, USA)
Reliability of k-out-of-n I Cold Standby Systems with Rayleigh Distributions
Rahamat Mohammad (Victoria University, Australia)
Suprasad V. Amari (Parametric Technology Corporation, USA)
Akbar A. Kalam (Victoria University, Australia)
Integrated Importance Analysis with Multi-state Multi-valued Decision Diagrams
Shumin Li (Northwestern Polytechnical University, China)
Shudong Sun (Northwestern Polytechnical University, China)
Zhiquang Cai (Northwestern Polytechnical University, China)
Shubin Si (Northwestern Polytechnical University, China)
Performance and Reliability Analysis of a SOA Application: An Integrated Approach
Rehab A. El Kharboutly (Eastern Connecticut State Univ, USA)
Swapna S. Gokhale (Univ. of Connecticut, USA)

SESSION 10
FMEA and Accelerated Reliability Design
Chair: Shengbin (Burt) Lin (Tenneco, Inc., USA)
Failure Modes Analysis of Fatigue S-N Test Data with Small Sample Size
Zhigang Wei (Tenneco, Inc., USA)
Fulun Yang (Tenneco, Inc., USA)
Burt Lin (Tenneco, Inc., USA)
D. Gary Harlow (Lehigh University, USA)
Reducing Test Specimen Size for Reliability Determination by Combining Lifetime Calculation and Prior Information, as Exemplified by hydraulic Pumps
Achim Romer (Bosch Rexroth, Germany)
Denis Dertitsche (Universitat Stuttgart, Germany)
Jost Kurfess (University of Applied Sciences Ulm, Germany)
Gaas Remaining Useful Life Prediction Using Generalized Polynomial Chaos Collocation Method
Fuqiong Zhao (Concordia University, Canada)
Zhigang Tian (Concordia University, Canada)
Accelerated Durability Testing and Data Analysis for Products with Multiple Failure Modes
Zhigang Wei (Tenneco, Inc., USA)
Burt Lin (Tenneco, Inc., USA)
Limin Luo (Tenneco, Inc., USA)
Fulun Yang (Tenneco, Inc., USA)
Dmitri Konson (Tenneco, Inc., USA)

12:00 pm – 1:00 pm  Conference Luncheon
1:30 pm – 3:00 pm  SESSION 11
Network Reliability
Chair: Xuemei Zhang (AT&T Labs, USA)
Manycast and Anycast-Based Infrastructure Communication Reliability for Wireless Sensor Networks
C. Wang (University of Massachusetts, Dartmouth, USA)
L. Xing (University of Massachusetts, Dartmouth, USA)
V. M. Vokkarane (University of Massachusetts, Dartmouth, USA)
Y. Sun (University of Rhode Island, USA)
Rigidity Reliability Analysis of High-speed Motorized Spindle based on RSM
Xuexing He (Northeastern University, China)
Yanshou Jiang (Northeastern University, China)
Mengbing Zhu (Northeastern University, China)
Jia Li (Northeastern University, China)
K-Coverage Reliability Evaluation for Wireless Sensor Networks
A. E. Zorouz (University of Massachusetts, Dartmouth, USA)
L. Xing (University of Massachusetts, Dartmouth, USA)
V. M. Vokkarane (University of Massachusetts, Dartmouth, USA)
Y. Sun (University of Rhode Island, USA)
System MTBF and Its Applications to IP Routers
Yaakov Kogan (AT&T Operations, USA)
Xuemei Zhang (AT&T Labs, USA)

SESSION 12
Statistical Methods in Reliability and Quality in Design
Chair: Panlog Zeephongsekul (RMIT University, Australia)
Critical Success Factors of Six Sigma Projects in Educational Services
E. Movassagi (Islamic Azad University, Iran)
R. Noorosana (Iran University of Science and Technology, Iran)
Evaluation of MTBF and MTTR Trends for a Selected Equipment in an Oil Refinery
M. Bevilacqua (Università Politecnica della Marche, Italy)
F. E. Ciarapica (Libera Universita di Bolzano, Italy)
G. Giacchetta (Università Politecnica della Marche, Italy)
B. Marchetti (Università degli Studi eCampus, Italy)
Proportional Hazard Model for Time-Dependent Covariates with Repeated Events
Alexandre Mendes (Northeastern University, USA)
Nissim Fried (RMIT University, USA)
On Estimation of Hazard Rate and Reversed Hazard Rate based on Transformations
Chathuri Lakshika Jayasinghe (RMIT University, Australia)
Panlog Zeephongsekul (RMIT University, Australia)

3:00 pm – 3:15 pm  Coffee Break
SESSION 13
Software Quality and Reliability Measurement
Chair: Shinji Iinoue (Tohoku University, Japan)

Stochastic Differential Equation Models Considering Jump Diffusion Process for an Open Source Software
Hirona Miyahara (Tohoku University, Japan)
Yoshinobu Tamura (Yamaguchi University, Japan)
Shigeru Yamada (Tohoku University, Japan)

Bivariate Software Reliability Modeling with Uncertainty of Testing-Environment Change
Shinji Iinoue (Tohoku University, Japan)
Jun Ikeda (Tohoku University, Japan)
Shigeru Yamada (Tohoku University, Japan)

Statistical Analysis Based on Software Process Data and Quantitative Project Evaluation
Shigeru Yamada (Tohoku University, Japan)
Makoto Shioda (Tohoku University, Japan)

Quantitative Assessment for Software Safety Integrity Level Based on Functional Safety Standards
Takahiro Nishikawa (Tohoku University, Japan)
Takaji Fujiwara (SPATECH Laboratory Inc., Japan)
Shigeru Yamada (Tohoku University, Japan)

Hazard Rate Modeling with Effect of Change-Point for Software Reliability Assessment
Shinji Iinoue (Tohoku University, Japan)
Shiho Hayashida (Tohoku University, Japan)
Shigeru Yamada (Tohoku University, Japan)

SESSION 14
Quality & Safety Reliability Analysis
Chair: Yi-Kuei Lin (National Taiwan University of Science & Technology, Taiwan)

The Optimal Re-sampling Strategy for a Risk Assessment Model
L. I. Tong (National Chiao Tung University, Taiwan)
W. Y. Wei (National Chiao Tung University, Taiwan)
P. Y. Wu (National Chiao Tung University, Taiwan)

Right Person on the Right Place – A Business Process Perspective
Shin-Guang Chen (Tungnan University, Taiwan)

Organizational Safety Climate & Work Safety Performance for Concrete Mixer Unvers
Kai Way Li (Chung Hua University, Taiwan)
Zong Kang Liu (Chung Hua University, Taiwan)

A Study on the Correlation between Customer and Quality
Jyh-Wen Ho (Aletheia University, Taiwan)

Accuracy Rate Issue for System Reliability Evaluation of Multiple Terminals
Yi-Kuei Lin (National Taiwan University of Science & Technology, Taiwan)
Cheng-Fu Huang (National Taiwan University of Science & Technology, Taiwan)

Saturday, July 28, 2012
8:00 am Registration/Continental Breakfast

SESSION 15
Warranty Modeling and Prediction
Chair: Minjae Park (Hongik University, Korea)

Warranty Repair Demand Prediction Considering New Sales and Failed-But-Not-Reported Phenomena
H.T. Liao (University of Arizona, USA)
W. Xie (University of Arizona, USA)

Fully Renewing Combination Free Replacement and Pro-Rata Warranty Cost Assessment Using Monte Carlo Simulation
D. Stamenkov (University of Belgrade, Serbia)
V. Popovic (University of Belgrade, Serbia)
D. Aleksendric (University of Belgrade, Serbia)

A Discrete Time Model of Two Full On-Demand Buses in Local Area
Junji Koyanagi (Tohoku University, Japan)
Hajime Kawai (Tohoku University, Japan)

Warranty Policy Based on Failure Time and Warranty Servicing Time
Minjae Park (Hongik University, Korea)
Hoang Pham (Rutgers University, USA)

SESSION 16
Reliability Design, Modeling and Optimization
Chair: Gordon Savage (University of Waterloo, Canada)

Reliability Design Confidence for Systems Subject to Correlated Component Failures
Lance Fiondella (Eastern Connecticut State University, USA)
Chendong Li (University of Connecticut, USA)

Contracting for Performance-Based Maintenance Service under Probit Maximization
J. Espiritu (University of Texas, USA)
C. H. Sung (Texas A&M Int’l University, USA)
T. Jin (Texas State University, USA)
H.-Z. Huang (University of Electronic Science and Tech. of China, China)

A Copula-based Mechanical System Reliability Model
Hong-wei Yang (Academy of Armored Forces Engineering, China)
Yu-an Zhao (Academy of Armored Forces Engineering, China)
Cheng-ming He (Academy of Armored Forces Engineering, China)
Computing the Cdf for Degrading Dynamic Systems
G. J. Savage (University of Waterloo, Canada)

Y. K. Son (Andong National University, Korea)
T. S. Seeharan (University of Waterloo, Canada)

10:00 am - 10:15 am Coffee Break

10:15 am - 12:15 pm SESSION 17

Process Control & Reliability Precisions
Chair: Yada Zhu (IBM T. J. Watson Research Center, USA)

A Proposed Bayesian Network Model for Analysing the Financial Performance of Containerships under Uncertainty
N.S.F. Abdul Rahman (Universiti Malaysia Terengganu, Malaysia)

Z.L. Yang (Liverpool John Moores University, United Kingdom)
S. Bonsall (Liverpool John Moores University, United Kingdom)
J. Wang (Liverpool John Moores University, United Kingdom)

Maintenance Scheduling of a Manufacturing System Subject to Linear Deterioration Model
Reza Ahmadi (City University London, United Kingdom)

Reliability and Performance Assessment of an Aviation Security Screening Checkpoint
Karl Severin (Eastern Connecticut State University, USA)
Clayton Spinnler (Eastern Connecticut State University, USA)
Michael Calvo (Eastern Connecticut State University, USA)
Derek Doran (University of Connecticut, USA)
Lance Fiondella (Eastern Connecticut State University, USA)

Comprehensive Reliability Evaluating of Large Mechanical and Electrical Assembling Equipment based on Testing and Controlling
Jun Chen (China Academy of Engineering Physics, China)
Fan Li (China Academy of Engineering Physics, China)
Yuan Ming Zheng (China Academy of Engineering Physics, China)

Virtual Metrology and Run-to-Run Control in Semiconductor Manufacturing
Y. Zhu (IBM T. J. Watson Research Center, USA)

R. J. Baseman (IBM T. J. Watson Research Center, USA)
J. He (IBM T. J. Watson Research Center, USA)
D. D. Restaino (IBM Microwaves Division, USA)
E. Yashchin (IBM T. J. Watson Research Center, USA)

SESSION 18

Maintenance Policies & Reliability Applications
Chair: Shaoji Xu (Allergan, Inc., USA)

A Multi-Objective Approach to Optimize a Periodic Maintenance Policy
Antonella Cerra (Università degli Studi di Palermo, Italy)
Mario Enea (Università degli Studi di Palermo, Italy)
Giacomo Galante (Università degli Studi di Palermo, Italy)
Toni Lupu (Università degli Studi di Palermo, Italy)

Research on Reliability Analysis Method for Mechanical Parts Based on Operation State Theory
Cheng-ming He (Academy of Armored Forces Engineering, China)
Yu-an Zhao (Academy of Armored Forces Engineering, China)
Hong-wen Yang (Academy of Armored Forces Engineering, China)

Maintenance Time Oriented Virtual Maintenance Integrated Analysis Method
Lei Kang (Beijing University of Aeronautics and Astronautics, China)
Dong Zhou (Beijing University of Aeronautics and Astronautics, China)
Chuan Lv (Beijing University of Aeronautics and Astronautics, China)
Zhigui Guo (Beijing University of Aeronautics and Astronautics, China)
Meihui Wang (Beijing University of Aeronautics and Astronautics, China)

On Intraclass Correlation Coefficients
Shaoji Xu (Allergan, Inc., USA)
Young Zhu (Allergan, Inc., USA)

Reliability Modeling and Life Testings of Main PCB Unit for Electrocardiographic Systems(ECG)
Sung-Min Kim (Korea Testing Laboratory, Korea)
Jung-Won Park (Korea Testing Laboratory, Korea)
Jeong-Hwan Cho (KIMPO University, Korea)

12:15 pm Adjourn!

ISSAT RQD 2011 Best Paper Award
Reliability of Systems with Identically Distributed Correlated Components
Lance Fiondella (University of Connecticut, USA)
Panlop Zaephongseuk (RMIT University, Australia)

ISSAT RQD 2011 Best Student Paper Award
System Reliability of a Stochastic Manufacturing Network with Reworking Action and Different Yield Rates
Ping-Chen Chang (National Taiwan University of Science & Technology, Taiwan)
Yi-Kuei Lin (National Taiwan University of Science & Technology, Taiwan)
Mingchih Chen (Fu-Jen Catholic University, Taiwan)