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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 Alhalabi (*Florida Atlantic University, USA*)

Reliability Prediction System using Bayesian Network
Kei Imazawa (*Hitachi, Ltd., Japan*)

Y. Katsumura (*Hitachi, Ltd., Japan*)

K. Kosugi (*Hitachi Global Storage Technologies Japan, Ltd., Japan*)

M. Douwaki (*Hitachi Global Storage Technologies 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 Bös (*Technische Universität Darmstadt, 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
Janell Duhaney (*Florida Atlantic University, USA*)

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

Randall Wald (*Florida Atlantic University, USA*)

Pierre P. Beaujean (*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*)
Ventsi Rumchev (*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

Fuqun Huang (*Beihang University, China*)

Bin Liu (*Beihang University, China*)

Bing 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 Lisnianski (*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 System under Stochastic Demand by Using L_Z -transform

A. Lisnianski (*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*)

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

On Ranking Software Reliability Growth Models by Subjective Data Analysis

G. Albeanu (*Spiru Haret University, Romania*)

G. I. Duda (*Spiru Haret University, Romania*)

Fl. Popentiu-Vladicescu (*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 photoelectricity Ltd, China*)
Huan-kun Wang (*Academy of Armored Forces Engineering, China*)

Impact of Data Sampling on Feature Selection Techniques for Software Defect Prediction

Kehan 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

Syouji Nakamura (*Kinjo Gakuin University, Japan*)
Xufeng Zhao (*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

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

Bayesian Network Modeling for Dynamic Fault Tree

Tetsushi 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 Cuscore Statistic for Monitoring Degradation Paths

Michelle Mancenido (*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*)
Abeer 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. Bevilacqua (*Università Politecnica delle Marche, Italy*)
F. E. Ciarapica (*Free University of Bolzano-Bozen, Italy*)
G. Mazzuto (*Università Politecnica delle Marche, Italy*)
L. Postacchini (*Free University of Bolzano-Bozen, Italy*)

Dynamic Modeling of Two-stage Gearbox for Condition Monitoring

Yonglin Ren (*Concordia University, Canada*)
Zhigang (Will) 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

8:00 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 Gao (*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

Tarek Elsmuai (*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 Teng (*Northeastern University, China*)

Lei Xu (*Northeastern University, China*)

Shuai Chu (*Northeastern University, China*)

Peng Zhao (*Northeastern University, China*)

Mei Su (*Northeastern University, China*)

Xuehong He (*Northeastern 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 photoelectricity 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. Zeepongsekul (*RMIT University, Australia*)

M. Abdollahian (*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 Chatwattanasiri (*Rutgers University, USA*)

David W. Coit (*Rutgers University, USA*)

Mark Rodgers (*Rutgers University, USA*)

Sanling Song (*Rutgers University, USA*)

Reliability of k -out-of- n Cold Standby Systems with Rayleigh Distributions

Rahamat Mohammad (*Victoria University, Australia*)

Suprasad V. Amari (*Parametric Technology Corporation, USA*)

Aktar 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*)

Zhiqiang 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*)

Bernd Bertsche (*Universitaet Stuttgart, Germany*)

Josef Kurfess (*University of Applied Sciences Ulm, Germany*)

Gear 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

Xuehong He (*Northeastern University, China*)

Yanshou Jiang (*Northeastern University, China*)

Mengbing Zhu (*Northeastern University, China*)

Jia Li (*Northeast University, China*)

K-Coverage Reliability Evaluation for Wireless Sensor Networks

A. E. Zonouz (*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: Panlop Zeepongsekul (*RMIT University, Australia*)

Critical Success Factors of Six Sigma Projects in Educational Services

E. Mousavi (*Islamic Azad University, Iran*)

R. Noorossana (*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 Università 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*)

Nasser Fard (*Northeastern University, USA*)

On Estimation of Hazard Rate and Reversed Hazard Rate based on Transformations

Chathuri Lakshika Jayasinghe (*RMIT University, Australia*)

Panlop Zeepongsekul (*RMIT University, Australia*)

3:00 pm - 3:15 pm Coffee Break

3:15 pm - 5:15 pm

SESSION 13

Software Quality and Reliability Measurement

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

Stochastic Differential Equation Models Considering Jump Diffusion Process for an Open Source Software

Hirona Miyahara (*Tottori University, Japan*)

Yoshinobu Tamura (*Yamaguchi University, Japan*)

Shigeru Yamada (*Tottori University, Japan*)

Bivariate Software Reliability Modeling with Uncertainty of Testing-Environment Change

Shinji Inoue (*Tottori University, Japan*)

Jun Ikeda (*Tottori University, Japan*)

Shigeru Yamada (*Tottori University, Japan*)

Statistical Analysis Based on Software Process Data and Quantitative Project Evaluation

Shigeru Yamada (*Tottori University, Japan*)

Makoto Shiomi (*Tottori University, Japan*)

Quantitative Assessment for Software Safety Integrity Level Based on Functional Safety Standards

Takahiro Nishikawa (*Tottori University, Japan*)

Takaji Fujiwara (*SRATECH Laboratory Inc., Japan*)

Shigeru Yamada (*Tottori University, Japan*)

Hazard Rate Modeling with Effect of Change-Point for Software Reliability Assessment

Shinji Inoue (*Tottori University, Japan*)

Shiho Hayashida (*Tottori University, Japan*)

Shigeru Yamada (*Tottori 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 Drivers

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

8:30 am - 10:00 am

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. Stamenkovic (*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 (*Tottori University, Japan*)

Hajime Kawai (*Tottori 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 Profit 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. Seecharan (*University of Waterloo, Canada*)

10:00 am - 10:15 am Coffee Break

10:15 am - 12:15 pm

SESSION 17

Process Control & Reliability Predictions

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 Spinner (*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 Microelectronics 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 Certa (*Università degli Studi di Palermo, Italy*)

Mario Enea (*Università degli Studi di Palermo, Italy*)

Giacomo Galante (*Università degli Studi di Palermo, Italy*)

Toni Lupo (*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-wei Yang (*Academy of Armored Forces Engineering, China*)

Maintenance Time Oriented Virtual Maintenance Integrated Analysis Method

Le 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*)

Zhiqi Guo (*Beijing University of Aeronautics and Astronautics, China*)

Meihui Wang (*Beijing University of Aeronautics and Astronautics, China*)

On Intra-class 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 Zeepongsekul (*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*)