

W01 New Measures for HRA

Wednesday 9/19/2018 10:30 AM Exploration

Chair: Vinh Dang

- 225 **Performance Shaping Factors as Operator Performance Measures for Validation and the Need for Robust Usability in Human Reliability Analysis**
Torrey J. Mortenson and Ronald L. Boring
Idaho National Laboratory, Idaho Falls, Idaho, USA
- 39 **Toward a Novel Situation Assessment (SA) Measure**
Jinkyun Park, Yochan Kim, and Wondea Jung
Korea Atomic Energy Research Institute, Daejeon, Republic of Korea
- 204 **Real-time SVM Classification for Drowsiness Detection Using Eye Aspect Ratio**
Caio B. Souto Maior, Márcio C. Moura, João M. M. de Santana, Lucas M. do Nascimento, July B. Macedo, Isis D. Lins (a) and Enrique L. Droguett (b)
a) Center for Risk Analysis and Environmental Modeling, Department of Production Engineering, Federal University of Pernambuco, Recife, Brazil, b) Mechanical Engineering Department, University of Chile, Santiago, Chile
- 386 **Drowsiness Detection Using Electroencephalography Signals: A Deep Learning Based Model**
Luis Guarda, Nicolás Astorga, Enrique López Droguett (a), Marcio Moura (b), Marcelo Ramos (c)
a) Mechanical Engineering Department, University of Chile, Santiago, Chile, b) Production Engineering, Federal University of Pernambuco, Recife, Brazil, c) Naval Engineering, University of Sao Paulo, Sao Paulo, Brazil

W03 Site Level (Multi-Unit, Multi-Source) PSA/PRA II

Wednesday 9/19/2018 10:30 AM Illumination

Chair: Jonathan DeJesus

- 430 **IAEA Project: Multiunit Probabilistic Safety Assessment**
Ovidiu Coman, Shahen Poghosyan
International Atomic Energy Agency (IAEA)
- 424 **Update of the Plant-specific Seismic PRA of NPP Goesgen – Risk Model, Results and Insights**
J.-U. Klügel, A. Nykyforchyn and D. Kancev
NPP Goesgen, Daeniken, Switzerland
- 333 **Practical Methods for Composing Multi-unit PSA Model**
Woo Sik Jung
Sejong University, Seoul, Republic of Korea

W04 Oil and Gas Industry I

Wednesday 9/19/2018 10:30 AM Legacy A

Chair: Marcelo Martins

- 185 **On the Development of the Blowout Preventer PRA Model**
Jan Swider (a,c), Charley Gallo (b,c), Gregg Walz, and Jim Raney (c)
a) Cogoto, Inc., Simi Valley, USA, b) The Frontline Group, Houston, USA, c) Anadarko Petroleum Corporation, The Woodlands, USA
- 216 **Probabilistic Model for Internal Uniform/Pitting Corrosion of Gas Pipelines**
Keo Yuan Wu and Ali Mosleh
The B. John Garrick Institute for the Risk Sciences, Department of Materials Science & Engineering, University of California, Los Angeles, USA
- 248 **Probabilistic Risk Analysis (PRA) of a Mobile Offshore Drilling Unit (MODU) Dynamic Positioning System (DPS)**
Eric B. Thigpen (a), Roger L. Boyer, Michael A. Stewart (b)
a) SAIC, Houston, Texas, b) NASA Johnson Space Center, Houston, Texas

W05 Risk Assessment Methods III

Wednesday 9/19/2018 10:30 AM Legacy B

Chair: Tsu-Mu Kao

- 206 **What Have We Done Lately? The Current Status of the SAPHIRE Risk Analysis Software**
S. Ted Wood, James K. Knudsen, and Kellie J. Kvarfordt
Idaho National Laboratory, Idaho Falls, United States
- 263 **Feedback on the Use Of Risk Metrics for Level 2 PSAs**
Guillaume Kioseyan, Yves Guigueno, Emmanuel Raimond
IRSN, BP 17, Fontenay-aux-Roses, 92262, France
- 264 **OECD WGRISK – Recently Ongoing and Potential Future International Risk-related Activities**
Marina Roewekamp (a), Kwang-Il Ahn (b), Yolande Akl (c), Attila Bareith (d), Vinh Dang (e), Jeanne-Marie Lanore (f), Markus Porthin (g), Gerhard Schoen (h), Sung Min Shin (b)
a) Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) gGmbH, Köln, Germany, b) Korea Atomic Energy Research Institute (KAERI), Daejeon, Republic of Korea, c) Canadian Nuclear Safety Commission (CNSC), Ottawa, ONT, Canada, d) NUBIKI, Budapest, Hungary, e) Paul Scherrer Institut (PSI), Villigen, Switzerland, f) Institut de Radioprotection et de Sécurité Nucléaire (IRSN), Fontenay-Aux-Roses, France, g) VTT, Espoo, Finland, h) Eidgenössisches Nuklearsicherheitsinspektorat (ENSI), Brugg, Switzerland
- 269 **On the Calculation of Unit Trip Frequency**
James C. Lin
ABSG Consulting Inc., Irvine, USA

W06 Water and Land Transportation III

Wednesday 9/19/2018 10:30 AM Pathways

Chair: Stein Haugen

- 291 **Stochastic Programming Decision for Inland Container Liner Route Stowage Planning with Uncertain Container Weight**
Jun Li, Yu Zhanga, Sanyou Ji (a), Jie Ma (b)
a) School of Logistics Engineering, Wuhan University of Technology, Wuhan, China, b) School of Navigation, Wuhan University of Technology, Wuhan, China
- 327 **Optimal Allocation of Emergency Resources for Safety Production in Container Ports**
Ning Chen, Wan Yue, Xiangyu Chen, Jing Ma
Wuhan University of Technology, Wuhan, China
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Adam Williams, Douglas Osborn, and Elena Kalinina
Sandia National Laboratories, Albuquerque, NM, USA
- 334 **Comparison of Maritime Safety Management Modes and Measures for Main Inland Waterways in China, US, and EU**
Ma Minglu (a), Wu Jing (b,a)
a) China Waterborne Transport Research Institute, Beijing, China, b) North China Electric Power University, Beijing, China

W07 Risk Informed Applications III

Wednesday 9/19/2018 10:30 AM Laureatte

Chair: Karl Fleming

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I. Niemelä, M. Marjamäki and N. Lahtinen
STUK, Helsinki, Finland
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Pia Humalajoki and Ilkka Niemelä
STUK - Radiation and Nuclear Safety Authority, Helsinki, Finland
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Taisto Laato, Kalle E. Jänkälä
Fortum Power and Heat Oy, Espoo, Finland
- 356 **2018 Status of “Requirements for Low Power and Shutdown Probabilistic Risk Assessment”, Low Power and Shutdown PRA Standard**
Donald J. Wakefield
ABSG Consulting Inc., Irvine, USA