

Pushing the Boundaries of System Safety

35th International System Safety Conference

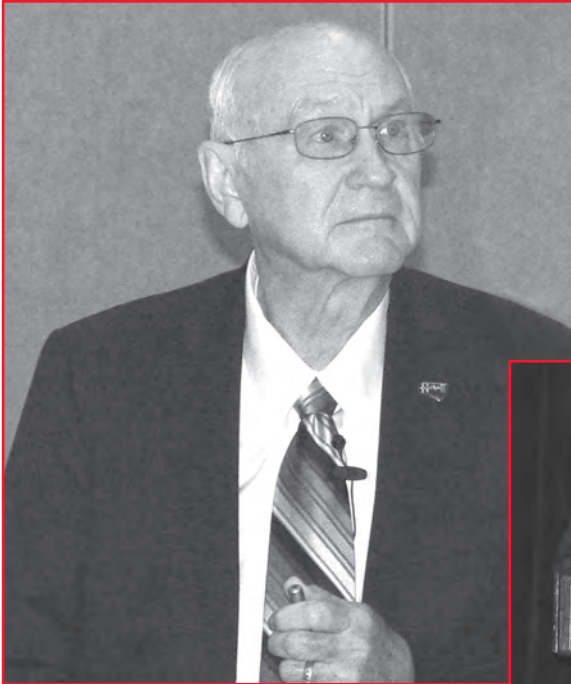
The 35th Annual ISSC was held August 21-25, 2017 in Albuquerque, New Mexico.

This year's theme was intended not only to redefine how system safety is applied in different domains, but to also reach into our past for lessons learned and go beyond our present thinking as we confront new challenges. It was intended to push the boundaries of the system of safety, as well as how we think about the safety of systems.



Photos by John Wilkinson

2017 ISSC Speakers



John Rankin

John Rankin, who spoke on "Perspectives on Objective," was the System Safety Engineering Manager for Boeing in Huntsville, Alabama, managing the system safety staff on all programs at that location, the largest being the International Space Station Product Group 3 effort. A member of the ISSS since 1973, he has served in various offices for the Society, both at the chapter level and nationally and internationally.



G. Edward Gibson

Dr. G. Edward Gibson, who spoke on "Pushing System Safety Boundaries Through High Education, A Novel Approach," is currently the Director of the School of Sustainable Engineering and the Built Environment (SSEBE) at Arizona State University, where he oversees several educational programs encompassing more than 60 faculty, 75 staff members and 1700 students.



2017 ISSC Awards

President's Award



Russell Mitchell, right, with ISSS Past President Rod Simmons

Educator of the Year



Bijan Elahi, center, with Rod Simmons and Nina Kohnen

Engineer of the Year



Chris Trumble, right, with ISSS President Chuck Muniak

Manager of the Year



Lynce Pfladderer, center, with Martin Chizek, left, and Chuck Muniak

2017 ISSC Awards

Chapter of the Year



Washington DC Chapter (From left, ISSS Chapter Services Director Robert Fletcher, ISSS President Chuck Muniak, Paul Denk and Amber Shampine)

Scientific Achievement Award



John Wagner (holding plaque)

Certified Safety Professional (CSP) Holders



Best Tutorial



Brian Connell, Chuck Muniak and Dave Musgrave

Best Paper



Chris Johnson (for "Defending Against Firmware Attacks in Safety-Critical Systems")

Best Tutorial



Scott Smith (for "AFOTEC Integration of Systems Safety into the ESOH Management System, and Cyber Security Operational Testing in Support of Defense Acquisition")

Best Paper



Martin Chizek (for "Risk Acceptance — How Safe Is Safe Enough?")

Not Pictured:

- *Pathfinder Award - Jerome Lederer*
- *Pathfinder Award - Tom Pfitzer*

Get Ready for the 36th ISSC!

Aug. 13-17, 2018 • Arizona Grand Resort • Phoenix, Arizona

It's never too early to get ready for the next International System Safety Convention! For more information about paper submissions, tutorials, registration, programs, sponsor and exhibitor opportunities, watch for future issues of *Journal of System Safety* and for updates on issc2018.system-safety.org

2017 ISSC Tutorials, Panels and Paper Presentations

Tutorials

- Risk Management for Safety – Critical Safety
- Leading A Successful ISSS Chapter
- Developing Electronics for Safety-Critical Applications
- System Safety Analysis: Part 1 & 2
- Hazard Analysis Technology Tailoring
- Programmable Logic Devices and Field Programmable Gate Arrays
- Introduction to Fault Tree Analysis
- Case Studies of High-Profile Mishaps and Associated Safety Mistakes
- Quantitative Risk Assessment
- System Safety Management Class
- Sneak Circuit Analysis
- Using Safety Assurance Cases for Medical Devices
- System Safety and Prognostic Health Management: God Is in Details
- An Introduction to STAMP and STPA
- Common Cause Failure Analysis
- System Safety Part 1: Hands-On System Safety Basics
- System Safety Part 2: Practical Generation of Safety Cases with the Help Of GSN
- System Safety Part 3: Cyber Safety and Security
- AFOTEC Integration of Systems Safety into the ESOH Management System, and Cyber Security Operational Testing in Support of Defense Acquisition
- High-Performance Teaming
- MIL-STD-882e Software Safety Analysis – Part 1: A Brief Review and a New Approach to Instruction
- MIL-STD-882e Software Safety Analysis – Part 2: Improved Understanding Via Gamification
- Assessing the Safety or Reliability of a System Using Event-Sequence Analysis
- Introduction to Field Programmable Gate Array (FPGA) Technology
- Human Factors 101
- MIL-STD-882e Applies to All Your Software: Even the Code You Don't Write
- Why Should You Care About the “-Ilities”
- Applying Lessons from Cyber Attacks on Ukrainian Infrastructures to Secure Gateways onto The Industrial Internet of Things
- Using Karnaugh Maps to Analyze Software Requirements
- Navigating A Course to Safety Certification for the 5th Mode of Transportation
- Understanding Human Error Through Designing Airworthy Systems
- Approved Methods and Algorithms for DOD Risk-Based Explosives Siting
- Ensuring Safe Behavior of Redundant Controllers for Improving System Availability
- Augmenting a Hazard Analysis Method with Error Propagation Information for Safety-Critical Systems
- Enterprise Architecture of Environment, Safety and Health at Sandia National Laboratories
- Climbing the Control Effectiveness Hierarchy: A Case Study Drawn from Industrial Hygiene Practices in the UAE
- Probabilistic Aspects of Initiation of Explosives and Ammunition
- Safety Management Systems Within NATO (MSIAC) Nations
- Requirements and Analysis of a High-Pressure System
- Hazard Considerations from Vulcan Launch Vehicle Major Development
- Learning Lessons from Space Industry's “Karma” for Advancing System Safety Science: Application of “System from Investigation of Railway Interfaces (Siri) Methodology
- Leveraging Manned Spaceflight Events from Systems Safety – Lessons from the Space Shuttle Mission 5TS-1 Aft Compartment Accident
- Quantifying Human Error in the Cockpit
- Fracas and Lessons Learned in Failure Tracking
- Interactive Risk-Based Planning for High-Density Unmanned Airborne System (‘Drone’) Traffic Management (UTM)
- Design Phase Elimination of Beryllium: Dangerous Goods III
- The Nature of Risk and Near-Miss
- Deja Vu with Overlooked Safety-Critical Item Verification
- Level of Rigor (LOR) Activities for A MIL-STD-882e Program
- Using Tailored MIL-STD-882e Safety Criticality Rules for Both Software and Hardware
- New Definitions for a New Science
- Development of Hazard Tracking System and Fuzzy Risk Interference System in NCSIST
- Strength in Depth and Quantitative Assessment in the Context of Low Frequency High Consequence Systems
- Application of Software Safety Engineering on Remote Controlled Weapon System (RCWS)
- Naive Fault Tree: Formulation of the Approach
- Toward a Safer and Securer Weapon System
- Incorporating Epistemic Uncertainty into the Safety Assurance of Socio-Technical Systems
- Ensuring Safe Operation of Future Autonomous Control Systems
- Evidence Theory-Based Railway WSP Brake System and The Rams Assessment – Novel Analysis of Reciprocal/ Concomitant Hazards
- Comparison of ISO 14620-1 And MIL-STD-882e Requirements Applicable to Space Launch Services Programs
- How to Succeed in Establishing a Successful International System
- Functional Safety of Integrated Circuits

Working Groups/Panels/Roundtables

- The Most Pressing Issues Facing System Safety
- Transit and Freight Transportation Safety
- Corporate Sponsorship Discussion
- Interactive Panel Discussion
- Present and Future Paradigms of the ISSS

Paper Presentations

- Defending Against Firmware Attacks in Safety-Critical Systems
- Avoidance and Control of Faults in Process Industries System Safety
- Boeing Test and Evaluation System and Task Analysis Workshops
- Importance of Risk Management in Engineering Education: Student Perspectives in the UAE
- System Safety Versus Survivability
- The Theory of Risk Uncertainty Reduction
- Developing a Hazard Tracking System
- Risk Acceptance — How Safe is Safe Enough?

Thanks to the 2017 ISSC Sponsors and Exhibitors

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