

Third IAASS Conference

PROGRAMME

Day 1 - Tuesday, 21 October 2008

08:00-09:30	Registration & Coffee
09:30-11:15	<p>Plenary Session: Part 1 Chairs: P. Kirkpatrick, R. Stuart</p> <p>Welcome Address: Amm. Sq. M. Trevisani, President of CASD</p> <p><u>Keynote Speakers:</u> MOD: Gen. V. Camporini, Chief of Staff Defence ESA: M. Courtois, Director of ESTEC CNES: M. Eymard, Director of Launchers USAF: R. McKinney, European Space Liaison NASA: C.H. Shivers, Deputy Director S&MA</p>
11:15-11:45	Coffee Break
11:45-12:45	<p>Plenary Session: Part 2 Chairs: J. Pelton, J. Bosma</p> <p><u>Keynote Speakers:</u> JAXA: Nobuo Takeuchi, Director S&MA CSA: S. Garon, Director S&PA ISSF: R. Stuart, President UdR: P. Gaudenzi, Conf. Organizing Committee</p>
12:45-14:00	Conference Lunch
14:00-15:30	<p>Session 1 - Lessons Learned and Safety Culture - Part 1 Chairs: J. Bosma (ESA, The Netherlands); N. Takeuchi (JAXA, Japan)</p>
	<p>Abstract Probabilistic Impact Analysis and Risk Assessment Supporting Shuttle Return-to-Flight Procedures <i>Abdi, F.</i> <i>Alpha Star Corporation (United States)</i></p> <p>(LECTURE – duration 60 minutes)</p> <p>Abstract Pitfalls of Implementing Failure Tolerance Safety Requirement - The ISS Service Module Triple Redundant Computer Failure <i>Lutomski, M.G.</i> <i>NASA (United States)</i></p> <p><i>Discussion</i></p>
14:00-15:30	<p>Session 2 - Designing Safety into Space Vehicles - Part 1 Chairs: J. Fragola (Valador Inc., United States); C. Shivers (NASA-MSFC, United States)</p>
	<p>Abstract ATV Flight Control Monitoring Implementation and Comparison with Flight Data <i>Kervegant, F.1; Chase, R.2; Cavrois, B.3; Fiesta, F.2</i> <i>1Astrium ST (France); 2ESA (Netherlands); 3Astrium ST (France)</i></p> <p>Abstract Spacecraft Survivability Engineering: Applying Techniques to Project Orion Design and the Future of Spacecraft <i>Buchanan, M.; Saemisch, M.</i> <i>Lockheed Martin Space Systems (United States)</i></p> <p>Abstract The Russian Docking System and the Automated Transfer Vehicle: A Safe Integrated Concept <i>Cislaghi, M.</i> <i>ESA (France)</i></p> <p>Abstract How Safe Must a Potential Crewed Launcher be Demonstrated to be Before it is Crewed? <i>Fragola, J.</i> <i>Valador, Inc. (United States)</i></p>

14:00-15:30	<p>Session 3 - Human Factors and Performance for Safety -Part 1 Chairs: L. Bessone (ESA/EAC, Germany); B. Parke (SJSUF/NASA-ARC, United States)</p> <p>Abstract Acoustics in Habitable Space Vehicles and Enclosures <i>Goodman, J.1; Grosveld, F.2</i> <i>1NASA-Johnson Space Center (United States); 2NASA -Johnson Space Center Consultant (United States)</i></p> <p>Abstract Human Mission to Mars: Designing Decision-support Tools for a Safety Critical Environment <i>Whiteley, I.1; Johnson, C.2; Townend, M.1</i> <i>1SEA (United Kingdom); 2University of Glasgow (United Kingdom)</i></p> <p>Abstract Centrifuge Training as Key Safety Mitigation in the Commercial Spaceflight Industry <i>Quinn, C.A.1; Stevenson, A.2; Lupa, H.2</i> <i>1Worldview Spaceflight (United Kingdom); 2QinetiQ (United Kingdom)</i></p> <p>Abstract Noise Control in Habitable Space Vehicles and Enclosures <i>Grosveld, F.W.1; Goodman, J.R.2</i> <i>1Consultant (United States); 2NASA Lyndon B. Johnson Space Center (United States)</i></p>
14:00-15:30	<p>Session 4 - Space Weather and Radiation Risk - Part 1 Chairs: J. Kunches (NOAA, United States); G. Reitz (DLR, Germany)</p> <p>Abstract The Belgian Solar-Terrestrial Center of Excellence: Building Space Weather Service Capacity in Europe <i>Van der Linden, A.</i> <i>Solar-Terrestrial Center of Excellence (Belgium)</i></p> <p>Abstract SEISOP: Space Environment Support System for Optimizing Satellite Operations <i>Di Marco, F.1; Donati, A.2; Pantoquilha, M.3; Baumgartner, A.3; Ponz, D.2</i> <i>1VEGA c/o European Space Operations Centre (Germany); 2ESA (Germany); 3Solenix GmbH (Germany)</i></p> <p>Abstract Whose Concern is Space Weather? <i>Jones, B.1; Fisher, G.2; Iles, R.3</i> <i>1SolarMetrics Limited (United Kingdom); 2American Meteorological Society (United States); 3SolarMetrics Limited (France)</i></p> <p><i>Discussion</i></p>
14:00-15:30	<p>Session 5 - Safety Analysis - Part 1 Chairs: M. Azeev (RSC-E, Russia); T. Pfitzer (APT-Research, United States)</p> <p>Abstract A Six-Step Process for Performing Scenario-Based Hazard Analysis <i>Benjamin, A.; Mongan, P.</i> <i>ARES Corporation (United States)</i></p> <p>Abstract Hazard Analysis of Complex Systems <i>Naphas, J.</i> <i>Federal Aviation Administration (United States)</i></p> <p>Abstract Evolution of Safety Analysis to Support New Exploration Missions <i>Thrasher, C.</i> <i>NASA - MSFC (United States)</i></p> <p>Abstract Safety Assurance of Manned Space Program in China <i>Ren, L.; Zhou, H.; Liu, C.</i> <i>China Astronautics Standards Institute (CASI) (China)</i></p>
15:30-16:00	Coffee Break

16:00-18:00	<p>Session 6 - Operations Safety Chairs: J.-P. Trincherro (CNES, France); S. Seyl (NASA-JSC, United States)</p>
	<p>Abstract ATV Jules Verne Safety in Operations Come, H.1; Jelineck, B.2 1ESA (France); 2CNES (France)</p> <p>Abstract Procedure Rework: An Adaptive Response to Potential Control Flaws in Spacecraft Operations Owens, B.D.; Leveson, N.G. Massachusetts Institute of Technology (United States)</p> <p>Abstract A Single Space Safety Console Certification Standard? - Proposal for the International Space Station Partners Herd, A.1; Childress, L.2; Kato, M.3 1ESA (Netherlands); 2NASA (United States); 3JAXA (Japan)</p> <p>Abstract Collaborative, Tailored, Anonymous Surveys Identify Sources of Errors in Unmanned Space Flight Control Environments Parke, B.1; Dismukes, K.2 1SJSUF/NASA Ames Research Center (United States); 2NASA Ames Research Center (United States)</p> <p>Abstract PASO: The ESA Safety Console for Columbus Integrated Operations Guidi, A.1; Mannini, P.2; Garbade, S.3; Favia, V.4 1HE Space Operations/IOT (Germany); 2Thales Alenia Space Italia/IOT (Italy); 3Astrium Space Transportation/IOT (Germany); 4HE Space Operations/ESA (Netherlands)</p>
16:00-18:00	<p>Session 7 - Nuclear Safety for Space Systems Chairs: M. El Genk (University of New Mexico, United States); F. Allahdadi (US Air Force Safety Center, United States)</p>
	<p>Abstract Development of a Safety Framework for Nuclear Power Source Applications in Outer Space Prepared by Joint STSC1/IAEA2 Expert Group, presented by Van Damme, P.; 1Scientific and Technical Subcommittee (STSC) of the UN Committee on the Peaceful Uses of Outer Space (COPUOS); 2International Atomic Energy Agency (IAEA)</p> <p>Abstract Radioisotope Power Systems Launch Safety and Space Science Rutger, L.1; Lipinski, R.2; Bartram, B.3 1United States Department of Energy (United States); 2Sandia National Laboratories (United States); 3Tetra Tech NUS, Incorporated (United States)</p> <p>Abstract Safety Considerations of Space Reactor Power Systems El-Genk, M. University of New Mexico (United States)</p> <p>Abstract Assessing Risks for the Launch of Radioactive Materials Wyss, G.1; Allahdadi, F.2 1Sandia National Laboratories (United States); 2US Air Force Safety Center (United States)</p> <p>Abstract Criticality Safety and Radiological Assessment of Operating Reactors in 1000 - 3000 km Earth Orbits El-Genk, M.S.; Schriener, T.M. Institute for Space and Nuclear Power Studies University of New Mexico, Albuquerque (United States)</p>
16:00-18:00	<p>Session 8 - Battery Safety Chairs: J. Jeevarajan (NASA-JSC, United States); A. Larsen (ESA/ESTEC, The Netherlands)</p>
	<p>Abstract Ground Handling of Batteries at Test and Launch-site Facilities Jeevarajan, J.A.1; Hohl, A.2 1NASA (United States); 2Lockheed Martin (United States)</p>

	<p>Abstract Dealing with Safety Issues of High Power Batteries for a New European Launcher <i>Laroye, J.-F. 1; Grassien, J.-Y. 2; Ercilbengoa, A.-E. 1</i> <i>1CNES (France); 2SAFT (France)</i></p> <p>Abstract Introduction of Enhancement of Legal Compliance for Mitsubishi Electric Corporation / Lithium-ion Battery <i>Mori, Y.M.; Kiyokawa, T.K.</i> <i>Mitsubishi Electric Corporation (Japan)</i></p> <p>Abstract Limitations of Internal Protective Devices in Commercial Low Capacity Cylindrical Lithium-ion Cells <i>Jeevarajan, J.A.</i> <i>NASA (United States)</i></p> <p>Abstract Operability of the Over-discharged Lithium-ion Secondary Cell -Lessons Learned from the Malfunction of HAYABUSA <i>Sone, Y. 1; Ooto, H. 2; Eguro, T. 2; Yoshida, T. 3; Kubota, M. 2; Yoshida, H. 2; Yamamoto, M. 2; Sakai, S. 2; Uno, M. 1; Hirose, K. 1; Tajima, M. 1; Kawaguchi, J. 1</i> <i>1Japan Aerospace Exploration Agency (Japan); 2Furukawa Battery Co. Ltd (Japan); 3NEC Toshiba Space Systems Ltd. (Japan)</i></p>
16:00-18:00	<p>Session 9 - Regulations and Standards for Safety - Part 1 Chairs: I. Rongier (CNES, France); R. Repcheck (FAA-AST, United States)</p>
	<p>Abstract Future Space Safety Technology, Standards and Regulation <i>Pelton, J.N.</i> <i>George Washington Univ. (United States)</i></p> <p>Abstract International Standards Enhance Interoperability - A Safer Lunar Colony <i>Pellegrino, J. 1; Coleman, S. 2</i> <i>1ATK Space Systems (United States); 2ATK (United States)</i></p> <p>Abstract ICAO's Role in Regulating Safety and Navigation in Suborbital Aerospace Transportation <i>Dempsey, P.; Mineiro, M.</i> <i>McGill University (Canada)</i></p> <p>Abstract Integrated Standardization for Space Industry for Future International Cooperations <i>Özalp, E.</i> <i>TUBITAK-UZAY (Turkey)</i></p> <p>Abstract Accommodating Suborbital Space Flights into the EASA Regulatory System <i>Marcicacq, J.-B.; Morier, Y.; Tomasello, F.; Erdelyi, Zs.</i> <i>European Aviation Safety Agency (EASA) (Germany)</i></p>
16:00-18:00	<p>Session 10 - Space Traffic Control and Management - Part 1 Chairs: K.-U. Schrogl (ESPI, Austria); B. Weeden (SWF, United States)</p>
	<p>Abstract Graphical Cockpit-based Space Vehicle Depictions Based upon Data Linked Aeronautical Information Services Information <i>Murray, D.; Livack, G.</i> <i>Federal Aviation Administration (United States)</i></p> <p>Abstract Data Sharing to Improve Close Approach Monitoring and Safety of Flight <i>DalBello, R.; Chan, J.</i> <i>Intelsat (United States)</i></p> <p>Abstract Rapid Prototyping Concept for Automatic Dependent Surveillance - Broadcast (ADS-B) in Commercial Space Flight Operations <i>Demidovich, N. 1; Murray, D. 2; Strain, R. 3</i> <i>1Federal Aviation Administration (US Govt.) (United States); 2FAA (US Govt) (United States); 3MITRE Corporation (United States)</i></p>

	<p>Abstract Space Traffic Control and Management <i>Curran, C.; Adebola, S.; Aganaba, T.; Antifaev, J.; Cabrera Alvarado, S.; Davis, L.; Desportes, C.; Fatih, Engin, M.; Gallemi i Rovira, O.; Halbert, D.; Kelly, C.; Krasa, J.; Laeng, A.; MacLeod, J.; Morley, S.; Otegbade, C.; Padia, D.; Pieri, G.; Reis, N.; Stiles, A.; Viau, E.; Western, O.; Yaldiz, S. International Space University (France)</i></p>
18:00	End of day

Day 2 - Wednesday, 22 October 2008

08:30-10:30	<p>Session 11 - Space Traffic Control and Management - Part 2 Chairs: K.-U. Schrogl (ESPI, Austria); B. Weeden (SWF, United States)</p>
	<p>Abstract The European Approach to Space Situational Awareness <i>del Monte, L. ESA (France)</i></p> <p>Abstract What Can We Learn? Data Analysis and Synthesis <i>Jehn, R.; Klinkrad, H. European Space Operations Centre (Germany)</i></p> <p>Abstract Worldwide Scientific Optical Network as a Global Space Surveillance Data Source <i>Agapov, V.M.; Molotov, I.E. Keldysh Institute of Applied Mathematics, RAS (Russian Federation)</i></p> <p>Abstract New Method to Determine Close Approaches Between Satellites <i>Wang, T.; Huang, H. Beihang University (China)</i></p> <p>Abstract Improved Conjunction Analysis via Collaborative Space Situational Awareness <i>Kelso, T.S.1; Vallado, D.A.1; Chan, J.2; Buckwalter, B.2 1Center for Space Standards & Innovation (United States); 2Intelsat Corporation (United States)</i></p>
08:30-10:30	<p>Session 12 - Safety Analysis - Part 2 Chairs: R. Baker (APT-Research, United States); M. Massie (ARES, United States)</p>
	<p>Abstract A Structured Approach to Scenario Generation for the Design of Crew Decision Support Tools <i>Whiteley, I.1; Johnson, C.2; Bogatyreva, O.3 1SEA (United Kingdom); 2University of Glasgow (United Kingdom); 3University of Bath (United Kingdom)</i></p> <p>Abstract Constellation Integrated Hazard Analyses - Overcoming the Challenges <i>Massie, M. ARES Corporation (United States)</i></p> <p>Abstract Failure Detection and Isolation based on FMEA Approach for the European Automated Transfer Vehicle <i>Kervegant, F.1; Oliefka, L.2; Chase, R.2 1Astrium Space Transportation (France); 2ESA/ESTEC (Netherlands)</i></p> <p>Abstract Planning for the Nexus of Safety, Reliability and Quality Assurance in the Ares 1 Upper Stage Project <i>Goodloe, C.1; Brown, B.1; Kolle, W.2 1NASA (United States); 2Boeing, Inc. (United States)</i></p>

08:30-10:30	<p>Session 13 - Probabilistic Risk Assessment and Management Chairs: C.H. Shivers (NASA, United States); T. Pfitzer (APT-Research, United States)</p> <p>Abstract Use of Probabilistic Engineering Methods in the Detailed Design and Development Phases of the NASA Ares Launch Vehicle <i>Safie, M.; Weldon, M.</i> NASA (United States)</p> <p>Abstract Returning to the Moon via a Risk Based Design <i>Jones, B.T.</i> NASA JSC (United States)</p> <p>Abstract Probabilistic Risk Assessment for H-II Transfer Vehicle (HTV) <i>Takada, S.T.1; Miki, M.2; Sato, Y.3</i> 1JAXA (Japan); 2JAMSS (Japan); 3Tokyo University of Marine Science and Technology (Japan)</p> <p>Abstract PRA Model Development & Applications to Operational Decision Making in Japanese Experiment Module <i>Miki, M.1; Takada, S.2; Satoh, Y.3</i> 1JAMSS (Japan); 2JAXA (Japan); 3Tokyo University of Marine Science and Technology (Japan)</p>
08:30-10:30	<p>Session 14 - Panel Discussion</p> <p>Space Human Factors: Research to Application Chairs: D. Rogers, SAIC, United States; Panel Organiser/Moderator: B. Woolford, NASA, United States Panelists: Holden, K., NASA, United States; Ferrante M., Thales-Alenia-Space, Italy; Fiedler, E., NSBRI, United States; McCann, R., NASA, United States; Duvall, L., NASA, United States</p>
08:30-10:30	<p>Session 15 - Payload Safety - Part 1 Chairs: S. Wolf (NASA-JSC, United States); R. Bureo (ESA, The Netherlands)</p> <p>Abstract Improvements to Payload/Cargo Leakage Rate Verification <i>Lvovsky, O.M.; Grayson, C.</i> ARES (United States)</p> <p>Abstract Safety Certification for International Space Station (ISS) Payloads <i>Johnson, P.T.</i> The Boeing Company (United States)</p> <p>Abstract ISS BIO Mission Experiments Integrated Safety <i>Maas, G.</i> Bradford Engineering (Netherlands)</p> <p>Abstract Quo Vadis Payload Safety? <i>Fodroci, M.; Schwartz, M.</i> NASA (United States)</p> <p>Abstract Application of Containment Requirements <i>Bureo, R.1; Novo, F.2; Moratto, C.2; Sinnema, G.3</i> 1ESA (Netherlands); 2AOES (Netherlands); 3ESA (not specified)</p>
10:30-11:00	Coffee Break
11:00-12:30	<p>Session 16 - Panel Discussion</p> <p>Technical Feasibility of International Civil Space Situational Awareness Chairs: B. Weeden, SWF, United States; L. Del Monte, ESA, France (TBC) Panellists: Jehn R., ESA/ESOC, Germany; Agapov, V.M. Keldysh Institute of Applied Mathematics, RAS, Russian Federation; Wang, Ting, Beihang University, China; Kelso T.S. Center for Space Standards & Innovation, United States</p>

11:00-12:30	<p>Session 17 - Spacecraft Re-entry Safety - Part 1 Chairs: J. Rüdiger (ESA/ESOC, Germany); P. Wilde (ACTA Inc., United States)</p>
	<p>Abstract SPEM (SPacecrew EMergency system) (1) <i>Bornisacci, V.; Fiore, L.; Giovangrossi, G. Aero Sekur (Italy)</i></p> <p>Abstract Satellite Reentry Risk Assessments at NASA <i>Johnson, N. NASA (United States)</i></p> <p>Abstract Controlled Re-entry Safety Boxes Sizing Application to ATV <i>Renaud, F.1; Martin, T.2 1Thales Services (France); 2CNES (France)</i></p> <p>Abstract ELECTRA Launch and Re-entry Safety Analysis Tool <i>Aussilhou, C.; Arnal, M.H.; Chemama, F.; Blazquez, A.; Lazare, B. CNES (France)</i></p>
11:00-12:30	<p>Session 18 - Panel Discussion</p>
	<p>Private Spaceflight and Safety Certification Chairs: J. Pelton, George Washington University, United States; R. Jakhu, McGill University, Canada Panellists: Roberts J., AON Limited, UK; J-B. Marciacq, European Aviation Safety Authority (EASA), Germany; Goh, G. DLR, Germany; Alexander, B. Personal Spaceflight Federation, United States; Laporte-Weywada, H. Astrium, France</p>
11:00-12:30	<p>Session 19 - Lessons Learned and Safety Culture - Part 2 Chairs: B. Kanki (NASA-ARC, United States); S. Newman (ARES Corporation, United States)</p>
	<p>Abstract Safety Benefits of a Learning Organization <i>Witwer, D. SAIC and Continental Express Airlines (United States)</i></p> <p>Abstract Lessons Learned and the Importance of a Safety Culture <i>Cuperus, L. ARES Corporation (United States)</i></p> <p>Abstract Sharing the Lessons from Space Accidents <i>Gallichon, A.J.1; Laraqui, S.2; Gallichon, A.3 1Gallichon Consulting LLC (United States); 2University of Maryland University College (United States); 3Harvard University (United States)</i></p> <p>Abstract Safety Lessons Learned from International Programms Mir-NASA, ISS, ATV <i>Vorobjov, P.; Smirnov, A. RSC-Energia (Russian Federation)</i></p>
11:00-12:30	<p>Session 20 - Designing Safety into Space Vehicles - Part 2 Chairs: K. Mikula (Boeing, United States); A. Menzel (EADS, Germany)</p>
	<p>Abstract Integrated Health Management Systems to Increase Safety and Reliability of Future Generation Space Vehicles <i>Villadei, W.1; Villadei, W.2; Gaudenzi, P.3 1Università La Sapienza (Italy); 2Italian Air Force (Italy); 3University of Rome La Sapienza (Italy)</i></p> <p>Abstract Crew Survival Considerations for Manned Spaceflight Programs - Past, Present, and Future <i>Pate, D. SAIC (United States)</i></p> <p>Abstract Survivability Management for Integrated Modular Safety-Critical Space Systems <i>Montano, G.; McDermid, J. University of York (United Kingdom)</i></p>

	<p>Abstract Some Issues Related to the Assessment of Spacecraft Fire Risks <i>Hirsch, D.; Beeson, H.</i> <i>NASA (United States)</i></p>
12:30-14:00	Lunch Break (IAASS Board Meeting)
14:00-15:30	<p>Session 21 - Spacecraft Re-entry Safety - Part 2 Chairs: W. Ailor (The Aerospace Corporation, United States); F. Alby (CNES, France)</p>
	<p>Abstract Independent Study of Risks from the Re-entry of the Automated Transfer Vehicle <i>Wilde, P.1; Nyman, R.1; Draper, C.1; Bavandi, A.2</i> <i>1ACTA Inc (United States); 2ESA/ESTEC (Netherlands)</i></p> <p>Abstract Requirements for Warning Aircraft of Reentering Debris <i>Ailor, W.1; Wilde, P.2</i> <i>1The Aerospace Corporation (United States); 2ACTA, Inc. (United States)</i></p> <p>Abstract A5ES-ATV: Challenges and Results of the First European Controlled Deorbitation for the Upper Composite of a Launcher <i>Leveau, C.; Rongier, I.</i> <i>CNES (France)</i></p> <p>Abstract THE IXV PROJECT Safety Aspects of the ESA Re-entry Technology Vehicle Paving the Way to European Space Transportation <i>Tumino, G.1; Pourrier, E.2; Sgobba, T.2; Ortega, G.2; Bavandi, A.3</i> <i>1ESA HQ (France); 2ESA (Netherlands); 3ESA (France)</i></p>
14:00-15:30	<p>Session 22 - Safety Critical Software Design and IVV - Part 1 Chairs: A. Soons (IAASS, The Netherlands); I. Rongier (CNES, France)</p>
	<p>Abstract Application of Formal Verification Approach for Safety-Critical Software in Safety Assessment Process <i>Katahira, M.; Miyamoto, Y.</i> <i>JAXA (Japan)</i></p> <p>Abstract Safety-Critical Software in Modern Integrated Modular Avionics Systems <i>Klicker, M.; Ruess, H.; Pape, W.</i> <i>IABG (Germany)</i></p> <p>Abstract Operation Procedure Validation of Space System as IV&V Methodology <i>Miyamoto, Y.; Katahira, M.</i> <i>JAXA (Japan)</i></p> <p>Abstract Context-based System Risk Model Framework for Assurance of Software-intensive Space Systems <i>Guarro, S.1; Nikora, A.2; Fisher, K.3; Roelant, H.4</i> <i>1ASCA Inc. (United States); 2Jet Propulsion Laboratory (United States); 3NASA-GSFC (United States); 4NASA-JSC (United States)</i></p>
14:00-15:30	<p>Session 23 - Space Traffic Control and Management - Part 3 Chairs: B. Weeden (SWF, United States); G. Goh (DLR, Germany)</p>
	<p>Abstract Rules of the Road for Preserving Safety and Security in Space: How to Get There from Here <i>Hitchens, T.</i> <i>Center for Defense Information (United States)</i></p> <p>Abstract Value of UN COPUOS Scientific and Technical Subcommittee Space Debris Mitigation Guidelines <i>Doldirina, C.</i> <i>McGill Institute of Air & Space Law (Canada)</i></p>

	<p>Abstract Space Traffic Management: Creating a Linkage with the Conference on Disarmament (CD) <i>Stojak, M.L.</i> <i>CMLS Consultants (Canada)</i></p> <p>Abstract Moving Forward on Space Traffic Control <i>Ailor, W.</i> <i>The Aerospace Corporation (United States)</i></p>
14:00-15:30	<p>Session 24 - Human Factors and Performance for Safety - Part 2 Chairs: B. Parke (SJSUF/NASA ARC, United States); G. Sandal (University Bergen, Norway)</p>
	<p>Abstract Integrating Space Flight Resource Management Skills into Technical Lessons for ISS Flight Controller Training <i>Baldwin, E.</i> <i>United Space Alliance (United States)</i></p> <p>Abstract A New horizon in Teaching Decision Making in Complex and Dynamic Fields of Work <i>Cardozo, D.</i> <i>Lufthansa Flight Training GmbH (Germany)</i></p> <p>Abstract Improving Stickiness: A Methodology for the Integration of Human Factors Skills Reinforcement into Technical Training <i>Coffey, E.B.J. 1; Ravagnolo, L.2; Bessone, L.3</i> <i>1Aera (Italy); 2Altec (Italy); 3ESA/EAC (Germany)</i></p> <p>Abstract Teaching Error Management in Complex and Dynamic Work Fields <i>Cardozo, D.</i> <i>Lufthansa Flight Training GmbH (Germany)</i></p>
14:00-15:30	<p>Session 25 - Regulations and Standards for Safety - Part 2 Chairs: T. Pfitzer (APT-Research, United States); M. Azeev (RSC-E, Russia)</p>
	<p>Abstract International Regulatory Standards for Spaceports <i>Jakhu, R.</i> <i>Institute of Air and Space Law (Canada)</i></p> <p>Abstract Missing an Important Opportunity to Improve Flight Safety for Astronauts and Protect the Space Environment <i>Iavicoli, V.</i> <i>Istituto di Studi Giuridici Internazionali (Italy)</i></p> <p>Abstract Proposed Definitions for Safety Devices and Survival Devices as Related to Human-Rated Spacecraft <i>Mikula, K.</i> <i>The Boeing Company (United States)</i></p> <p><i>Discussion</i></p>
15:30-16:00	Coffee Break
16:00-18:00	<p>Session 26 - Launch and Ground Safety - Part 1 Chairs: R. Repcheck (FAA-AST, United States); I. Rongier (CNES, France)</p>
	<p>Abstract Modeling Debris Impact Probability Distributions <i>Haber, J.; Larson, E.; Carbon, S.</i> <i>ACTA Incorporated (United States)</i></p> <p>Abstract Separation Distances for Rocket Launch Operations <i>Zapata, E.</i> <i>Federal Aviation Administration (United States)</i></p>

	<p>Abstract Launch and Reentry Public Risk Quantification, Communication and Decision-Making Under Uncertainty <i>Collins, J.; Carbon, S.</i> <i>ACTA Inc. (United States)</i></p> <p>Abstract Evaluation of Optimal Selection of Launch Range Safety Using The Weight Matrix Method <i>Abbasian Afrapoli, A.</i> <i>K.N. Toosi University of Technology, MS.c in Space System Engineering (Iran, Islamic Republic of)</i></p> <p>Abstract The Development and Implementation of Ground Safety Requirements for Project Orion Abort Flight Testing - A Case Study <i>Kirkpatrick, P.; Williams, J.; Condzella, W.</i> <i>NASA (United States)</i></p>
16:00-18:00	<p>Session 27 - Human Factors and Performance for Safety - Part 3 Chairs: G. Sandal (University Bergen, Norway); D. Rogers (SAIC, United States)</p>
	<p>Abstract Safety On-orbit: Psychosocial Lessons Learned from Two Space Station Studies <i>Kanas, N.</i> <i>University of California, San Francisco (United States)</i></p> <p>Abstract NASA's Inclusion of Human Factors for the Safety of Space Exploration <i>Bell-Robinson, D.</i> <i>NASA Johnson Space Center/GHG (United States)</i></p> <p>Abstract Human Factors Issues in the Design of Ground Systems: A Pathfinder Activity <i>Kanki, B.1; Barth, T.2; Miller, D.3; King, J.3; Stambolian, D.3; Hawkins, J.3; Westphal, J.4; Dippolito, P.5; Dinally, J.5; Blunt, M.6</i> <i>1NASA Ames Research Center (United States); 2NASA Engineering and Safety Center (United States); 3NASA Kennedy Space Center (United States); 4Outcome Engineering (United States); 5Booz Allen and Hamilton (United States); 6Science Applications International Corporation (United States)</i></p> <p>Abstract Strategies to Optimize Individual and Team Performance <i>Leon, G.R.</i> <i>University of Minnesota (United States)</i></p> <p>Abstract A Safe Space Suit: A Human Factor (Anthropometry and Biomechanics) Approach <i>Rajulu, S.; Jeevarajan, A.S.</i> <i>NASA / Johnson Space Center (United States)</i></p>
16:00-18:00	<p>Session 28 - Safety Risk Assessment and Management Chairs: C.H. Shivers (NASA, United States); J. Fragola (Valador Inc., United States)</p>
	<p>Abstract Understanding the Limitations of Models and Analyses <i>Barr, S.; Kohli, R.</i> <i>The Aerospace Corporation (United States)</i></p> <p>Abstract Road Signs in Risk Space <i>Pfitzer, T.; Hardwick, M.</i> <i>APT Research, Inc. (United States)</i></p> <p>Abstract Continuous Risk Management and its Impact on Constellation's Ares 1-X Simulator Rocket Development: April 2009 Launch <i>Frank Robinson, Jr.</i> <i>NASA Glenn Research Center (United States)</i></p> <p>Abstract Integrated Risk Management Process for NASA Crew Exploration Vehicle <i>Tenteris-Noebe, A.; Best, Timothy D.; Calhoun, C.</i> <i>NASA Glenn Research Center (United States)</i></p>

16:00-18:00	Session 29 - Safety of Extra Vehicular Activities Chairs: R. Comin (SAIC, United States); V. Chang (CSA, United States)
	<p>Abstract Safety Panel Resources <i>Stewart, C.</i> <i>SAIC (United States)</i></p> <p>Abstract Optical Distress Beacon for Space Use <i>Danowitz, A.1; Pinckney, N.1; Braly, M.1; Chen, H.1; Giles, A.1; Harris, S.1; Osofsky, S.2</i> <i>1Harvey Mudd College (United States); 2The Aerospace Corporation (United States)</i></p> <p>Abstract Regulation and Utilization of Human Heat to Enhance Safety and Survival in Routine and Emergency EVA Situations <i>Koscheyev, V.S.</i> <i>University of Minnesota (United States)</i></p> <p>Abstract Analysis of Lunar Exploratory Robotic Tasks for Safety <i>Doule, O.; Hochstein, J.; Mulugeta, L.; Bodkin, D.; Demel, M.; Chan, A.; Chasseigne, R.; Jagula, D.; Oprong, A.; Quémet, L.; Salazar, J.P.; Turnock, M.J.E.</i> <i>International Space University (France)</i></p>
16:00-18:00	Session 30 - Orbital Debris Chairs: M. Matney (NASA-JSC, United States); J. Rüdiger (ESA/ESOC, Germany)
	<p>Abstract A Micro-Meteoroid and Orbital Debris Risk Assessment for a Space Elevator <i>Abrams, J.; Nelson, A.</i> <i>ARES Corporation (United States)</i></p> <p>Abstract Estimating Orbital Lifetime of Space Objects from Two-Line Elements <i>Wang, T.; Huang, H.</i> <i>Beihang University (China)</i></p> <p>Abstract Predicting the Perforation of Satellite Structures and Subsystems <i>Schonberg, W.1; Putzar, R.2; Schaefer, F.2</i> <i>1Missouri S&T (United States); 2Fraunhofer Ernst Mach Institute (Germany)</i></p>
16:00-18:00	Session Extra: Academic Education and Professional Training Workshop
	<i>Organizers: J. Pelton, IAASS Academic Committee Chair; P. Kirkpatrick, IAASS Training Programs Committee</i>
18:00	End of day

Day 3 - Thursday, 23 October 2008

08:30-10:30	Session 31 - Spacecraft Re-entry Safety - Part 3 Chairs: G. Ortega (ESA/ESTEC, The Netherlands); P. Wilde (ACTA Inc., United States)
	<p>Abstract Automatic Transfer Vehicle ATV Reentry Safety Trajectory Analysis with ASTOS <i>Ortega, G.1; Sgobba, T.1; Bavandi, A.1; Weikert, S.2; Cremaschi, F.2</i> <i>1European Space Agency (Netherlands); 2ASTOS Solutions GmbH (Germany)</i></p> <p>Abstract Probabilistic and Deterministic Re-entry Risk Analysis using ASTOS <i>Weikert, S.1; Cremaschi, F.1; Ortega, G.2</i> <i>1Astos Solutions GmbH (Germany); 2European Space Agency, ESA/ESTEC (Netherlands)</i></p> <p>Abstract Jules Verne Re-entry Multi-Instrument Aircraft Campaign <i>Hatton, J.</i> <i>European Space Agency, ESA/ESTEC (Netherlands)</i></p>

08:30-10:30	Session 32 - Human Factors and Performance for Safety - Part 4 Chairs: D. Rogers (SAIC, United States); B. Kanki (NASA-ARC, United States)
	<p>Abstract SONICS - The Importance of Sound in Space Control Systems <i>Pantoquilho, M.1; Sousa, B.2; Mesples, D.2; Donati, A.2</i> 1<i>Solenix Deutschland GmbH (Germany); 2European Space Agency, ESA/ESOC (Germany)</i></p> <p>Abstract Analysis on the Accident of Human Error for Equipment System <i>Xi Kui, W.; Li Ming, R.; Hai Jing, Z.; Ling, S.</i> <i>China Astronautics Standards Institute (China)</i></p> <p>Abstract Training for Space Endeavors: Designing Behavioral Training for Individuals and Teams in High Risk Environments <i>Klein, N.1; Bessone, L.2</i> 1<i>(Germany); 2ESA/EAC (Germany)</i></p> <p>Abstract Emergency Medicine for Manned Suborbital Flights <i>Adebola, S.O.M.</i> <i>International Space University (France)</i></p>
08:30-10:30	Session 33 - Payload Safety - Part 2 Chairs: M. Ferrante (Thales Alenia Space, Italy); P. Kirkpatrick (NASA-KSC, United States)
	<p>Abstract A New Labeling System for Hazardous Materials in Manned Spacecraft <i>Garcia, H.</i> <i>Wyle Integrated Science and Engineering Group (United States)</i></p> <p>Abstract TAS-I Safety Engineering Support to ISS Operation in the Frame of the Columbus and ATV Missions <i>Garbellini, L.G.1; Fadda, G.F.1; Mannini, P.M.2; Pesce, C.P.2; Pochettino, P.P.1</i> 1<i>Thales Alenia Space Italia S.p.A. (Italy); 2Alenia S.I.A. (Italy)</i></p> <p>Abstract Building on the Past - Looking to the Future <i>Nash, S.1; Rehm, R.1; Santiago, D.1; Wong, T.1; Wolf, S.2</i> 1<i>GHG Corporation (United States); 2NASA (United States)</i></p> <p>Abstract Implementation of Operational Hazard Controls on EuTEF Payload to Overcome Safety Noncompliances <i>Laplena, D.; Tominetti, F.; Grilli, M.</i> <i>Carlo Gavazzi Space S.p.A. (Italy)</i></p> <p>Abstract Structural Verification of Glass and Ceramic Components for Manned Spaceflight Structures <i>Bureo, R.1; Novo, F.2; Sinnema, G.1; Moratto, C.2</i> 1<i>ESA (Netherlands); 2AOES (Netherlands)</i></p>
08:30-10:30	Session 34 - Launch and Ground Risk - Part 2 Chairs: C. Moura (INPE, Brazil); J. Haber (ACTA Inc., United States)
	<p>Abstract Launch Risk Acceptability: The Public Speaks <i>Haber, J.1; Lamoreaux, R.2</i> 1<i>ACTA, Inc. (United States); 2NASA (United States)</i></p> <p>Abstract On-ground Risk Estimation for Scientific Balloons Flights around the World <i>Fuentes, N.</i> <i>CNES (France)</i></p> <p>Abstract An Approach for Risk Assessment: The Brazilian Case <i>Durante, E.; Mello Leme, F.; Niwa, M.</i> <i>Instituto de Fomento e Coordenação Industrial (Brazil)</i></p>

	<p>Abstract Evaluation of Instantaneous Reliability and Ground Hazard for a Rocket Launcher with Blind and Ballistic Phases <i>Baudet, J.P.1; Panicucci, M.2</i> <i>1MIRESPACE (France); 2ESA/ESRIN (Italy)</i></p>
08:30-10:30	<p>Session 35 - Space Weather and Radiation Risk - Part 2 Chairs: J. Kunches (NOAA, United States); F. Cucinotta (NASA-JSC, United States)</p>
	<p>Abstract Impact of Space Radiation on Interplanetary Missions <i>Reitz, G.</i> <i>German Aerospace Center (Germany)</i></p> <p>Abstract Cosmic Radiation and Light Flashes in Space <i>Narici, L.</i> <i>University of Rome and INFN (Italy)</i></p> <p>Abstract Probabilistic Assessment of Radiation Risk for Solar Particle Events <i>Kim, M.Y.1; Cucinotta, F.A.2</i> <i>1Universities Space Research Association (United States); 2NASA Johnson Space Center (United States)</i></p> <p>Abstract Overview of the Ground-based Space Radiation Research in Europe <i>Durante, M.</i> <i>GSI (Germany)</i></p>
10:30-11:00	Coffee Break
11:00-12:30	<p>Session 36 - Spacecraft Re-entry Safety - Part 4 Chairs: G. Ortega (ESA/ESTEC, The Netherlands); F. Alby (CNES, France)</p>
	<p>Abstract Computation of the Re-entry of Spacecraft with On-board Tanks after Orbital Decay <i>Fritsche, B.</i> <i>HTG (Germany)</i></p> <p>Abstract Safety Analysis for Stage Reentry of VEGA LV <i>Erb, S.O.1; Barbagallo, D.2; Cremaschi, F.3; Martinez Barrio, A.1; Ortega, G.1</i> <i>1European Space Agency (Netherlands); 2ESA IPT (Italy); 3ASTOS Solutions GmbH (Germany)</i></p> <p>Abstract Statistical Issues for Uncontrolled Reentry Hazards <i>Matney, M.</i> <i>NASA Johnson Space Center (United States)</i></p>
11:00-12:30	<p>Session 37 - Safety Critical Software Design and IVV - Part 2 Chairs: A. Soons (IAASS, The Netherlands); S. Seyl (NASA, United States)</p>
	<p>Abstract Software Safety in Human Space Flight <i>Rogers, J.1; Schloesslin, M.2</i> <i>1MEI Technologies, Inc. (United States); 2Lockheed Martin (United States)</i></p> <p>Abstract Ensuring Dependability and Safety in the Development of Mission/Safety Critical Software <i>da Mota Silva, S.1; Roeloffs, B.1; Bugter, R.1; Parsons, M.2</i> <i>1Logica Nederland B.V. (Netherlands); 2Logica U.K. (United Kingdom)</i></p> <p>Abstract High Reliable RTOS to Avoid the Single Failure Point of RTOS <i>Ishihama, N.</i> <i>JAXA (Japan)</i></p> <p>Abstract Automated Transfer Vehicle (ATV) Mission and Safety Critical Software Development <i>Ludwig, K.; Zekri, E.</i> <i>ESA (Netherlands)</i></p>

11:00-12:30	Session 38 - Panel Discussion
	International Consensus Space Safety Standards. Should the Way Ahead Include an ICAO Type Organization? <i>Chairs: Prof. Ram Jakhu (TBC), McGill University, Canada; Prof. J. Pelton (TBC), GWU, United States</i> <i>Panellists: T. Pfitzer, APT-Research, United States; K-U. Schrogl, European Space Policy Institute, Austria; G. Goh, DLR, Germany; Liming Ren, China Astronautics Standards Institute (CASI), China</i>
11:00-12:30	Session 39 - Designing Safety into Space Vehicles - Part 3 Chairs: P. Gaudenzi (Universita La Sapienza, Italy); C. Shivers (NASA-MSFC, United States)
	Abstract Leakage of the ATV Pressurised Module <i>Bouckaert, F.1; Albero, E.2; Schulte, U.3</i> <i>1European Space Agency (Netherlands); 2Thales Alenia Space-Italia (Italy); 3Astrium-ST (Germany)</i>
	Abstract Modeling the Risk of Fire/Explosion Due to Oxidizer/Fuel Leaks in the Ares I Interstage Ring, <i>R.1; Stott, J.2; Hales, C.1</i> <i>1NASA/Bastion Technologies, Inc. (United States); 2NASA/MSFC S&MA (United States)</i>
	<i>Discussion</i>
11:00-12:30	Session 40 - Panel Discussion
	Enhancing Distributed Team Performance in Exploration Missions <i>Chair: G. Sandal, University Bergen, Norway; Panel Organiser/Moderator: J. Orasanu, NASA/ARC, United States</i> <i>Panelists: Rogers, D., SAIC, United States; Bessone, L., ESA/EAC, Germany; Kraft, N., NASA, United States; McDonnell, L., NASA, United States; Parke, B., NASA, United States</i>
12:30-14:00	Lunch Break (IAASS General Assembly)
14:00-15:00	Plenary Session: Part 1 Chairs: N. Takeuchi, JAXA, Japan; J. Bosma, ESA, The Netherlands
	The Suborbital Space Tourism Project of EADS Astrium <i>Chavagnac, Ch.</i> <i>Astrium (France)</i>
	Design for Survivability in Car Racing: The "Ferrari" and "Toro Rosso" Formula 1 Experience <i>Cassese, F.1; Zuppelli, S.1; Ascanelli, G.2; Marabini, P.2</i> <i>1DTM (Italy); 2Toro Rosso (Italy)</i>
15:00-15:30	Coffee Break
15:30-17:30	Plenary Session: Part 2 Chairs: P. Kirkpatrick, NASA, United States; A. Soons, IAASS, The Netherlands
	Conference wrap-up:
	- Conference Closing Speakers <ul style="list-style-type: none"> • J. Bosma – ESA • M. Saemisch - Lockheed Martin Space Systems • G. Giannantoni - Rheinmetall Italia S.p.A. • M. Ferrante - Thales Alenia Space • A. Menzel - EADS • R. Repcheck – FAA-AST
	- Special Sessions On Human Factors and Performance for Safety, Debrief: <ul style="list-style-type: none"> • D. Rogers – SAIC, United States
	- Conference Co-Chairmen Debrief: <ul style="list-style-type: none"> • R. Stuart, International Space Safety Foundation, USA • B. Weeden - Secure World Foundation, USA
	- Conclusions and Announcements: IAASS President
17:30	End of day

Poster Session
<p><u>Regulations and Standards for Safety</u></p> <p>Abstract A Parallel Between a New Liability Regime for Space Travel and Air Transport Regulatory Framework <i>Spada, M.</i> <i>University of Rome (Italy)</i></p> <p>Abstract Safety, Reliability and Affordability of Future Space Transportation Systems Request Special International Regime <i>Spada, M.</i> <i>University of Rome (Italy)</i></p> <p>Abstract A Modernized Civil Aviation System Inclusive of Commercial Space Transportation: Legal Problems and Solutions <i>Spada, M.</i> <i>University of Rome, (Italy)</i></p> <p>Abstract Astronaut Robotic Synergy Vis-á-vis Crew Safety on the Moon: The Need for a Common Frame for Safety Standards <i>Oprong, A.; Acevedo, G.; Jagula, D.</i> <i>International Space Universty (France)</i></p> <p><u>Academic Education and Professional Training</u></p> <p>Abstract Ireland's Space Industry Skillnet and the IAASS Training Academy - A Cooperative Venture <i>Gleeson, D.1; Kirkpatrick, P.2</i> <i>1Space Industry Skillnet (Ireland); 2IAASS, Training Programs Committee (United States)</i></p> <p>Abstract 20 Years of Crew Resource Management Training for Flight Crews at Deutsche Lufthansa AG <i>Bubelach, B.; Cardozo, D.</i> <i>Lufthansa Flight Training GmbH (Germany)</i></p> <p>Abstract How to Use Knowledge Management Techniques to Turn a Lump of Clay Into a Systems Safety Engineer <i>Brinkman, J.</i> <i>ARES Corporation (United States)</i></p> <p><u>Technical Risk Management and Integration</u></p> <p>Abstract Enabling Space Mission Success and Reduction of Risk Through the Application of an Integrated Data Architecture <i>Brummett, R.</i> <i>NASA (United States)</i></p> <p>Abstract Several Approaches for Satellite Reliability Prediction <i>Ramirez, A.1; Dias, L.M.2</i> <i>1Deimos-Space (Spain); 2Edisoft (Portugal)</i></p> <p>Abstract Integration Plan of Safety and Mission Assurance Information Technology System in JAXA <i>Okada, K.</i> <i>Japan Aerospace Exploration Agency (Japan)</i></p> <p>Abstract Implementing Risk-Based Project Management for Space Launch Range Safety Critical Systems <i>Leeney, R.; Widowson, K.; Savella, D.; Loomis, E.; Haney, W.</i> <i>ARES Corporation (United States)</i></p>

Design and Testing

Abstract

Prediction/Verification Residual Strength of Shuttle Columbia Reinforced Carbon-Carbon Plate Specimens

Abumeri, G.

Alpha Star Corporation (United States)

Abstract

Probabilistic Damage Evaluation of Composite Structures for Nuclear Power Plants

Gramiccia, I.

SRS (Italy)

Abstract

The Role of Humanoid Robots in Testing Safety Parameters for Manned Missions

Whiteley, G.; Fletcher, C.

Elumotion Ltd (United Kingdom)

Abstract

Advanced Linear Electron Beam Phased Propulsion

Thomas, M.

Thomas Propulsion (United States)

Abstract

Passenger Safety on Personal Spaceflight - Spacecraft Interior Concept Design - Silverbird

Doule, O.

International Space University (France)

Abstract

Safe and Low-cost High-speed Data Systems for Next Generation Manned Space Missions

Jameux, D.

ESA/ESTEC (Netherlands)