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PSAM 6
Caribe Hilton Hotel
23 - 28 June 2002
San Juan, Puerto Rico USA

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6th International Conference on Probabilistic Safety Assessment and Management 23-28 June, 2002 San Juan, Puerto Rico, USA

REGISTRATION FORM

Fax or Mail to: PSAM 6 Registration, c/o Beta Corporation International, 6719-D Academy Rd NE, Albuquerque, NM 87109, USA Fax #: 505-822-1959

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This form must be received with payment in full prior to April 30, 2002 to be eligible for the reduced rate. Registrations received after this date will be considered "on-site". Confirmations will be sent.

Any changes, cancellations, and/or refund requests must be received in writing no later than May 15, 2002. No telephone registrations or cancellation will be accepted. Substitutions will be accepted at any time.

PSAM 6 HOTEL RESERVATION FORM

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Technical Program

Monday, June 24, 2002 Tuesday, June 25, 2002 Wednesday, June 26, 2002 Thursday, June 27, 2002 Friday, June 27, 2002

Monday, June 24, 2002

Session 1 • Opening and Plenary Session I

8:30 am – 10:00 am Chair: E. Bonano

San Geronimo Ballroom B

- Introductory Remarks, Dr. E.J. Bonano, IAPSAM President, PSAM 6 General Chair
- Welcome Message, Hon. Salvador Salas, Secretary, Department of Natural and Environmental Resources, Commonwealth of Puerto Rico
- Introduction of Plenary Speaker, Prof. Shunsuke Kondo, IAPSAM Past President and PSAM 5 General Chair
- Plenary Presentation, "Combating Terrorism: One Physicist's Approach", Prof. Richard Wilson, Harvard University, Cambridge, MA, USA

Coffee & Refreshment Break

10:00 am - 10:30 am

Session 2A Insights from PSA Level 1 10:30 am – 12:00 pm Chair: J. LaChance San Cristobal Ballroom A

- Probabilistic Safety Assessment of the French PWR 900 MWe Series Results and Insights, by F. Corenwinder, V. Bertrand, P. Dupuy, C. Gomane, JM. Mattei and F. Pichereau
- The Role of PSA in the Design Improvement Program of Korean Standard Nuclear Power Plant, by Hwan-Sung Kang, Byung-Oke Cho, Ki-Seung Park, Sun-Koo Kang and Myung-Ro Kim
- The Level-1 Probabilistic Safety Assessment Application of TR-2, by Bulent Alpay, Vural Atin and Fahir Borak
- The Role of Probabilistic Risk Assessment in the Periodic Safety Re-assessment of Koeberg Nuclear Power Plant, South Africa, by H.M. (Terma)
 Kussman and G.A. Clapisson

Session 2B Common Cause Failures

10:30 am – 12:00 pm Chair: J-M. Lanore

San Cristobal Ballroom B-C

- A Model for Common Cause Failures in Systems of Redundant Components and Applications, by H.-P. Berg, R. Görtz and E. Schimetschka
- Quantification of Common Cause Failure Rates and Probabilities for Standby-System Fault Trees Using International Event Data Sources, by J.K.
 Vaurio and K.E. Jankala
- Common Cause Failure Probabilities for Redundant Standby Safety System Risk Analysis with Testing and Timing Dependencies, by J.K. Vaurio
- Human Reliability Analyses to Consider Common Cause Failures for a Research Reactor During its Design Phase, by J. Baron, J. Nuñez McLeod and S. Rivera

Session 2C Risk Monitors 10:30 am – 12:00 pm

Chair: G. Parry San Cristobal E-F

- The Development of the Second Generation of Taiwan's NPP Risk Monitor (TIRM-2), by Tsu-Mu Kao, Chun-Chang Chao, Chung-Kung Lo and Tsu-Jen Lin
- Benchmark Tests of the INERISKEN as an Engine for a New Generation Risk Monitor, by Chun Chang Chao, Ching-Hui Wu, Shyn-Jen Lee and Tsu-Mu Kao

- Designing a Risk Monitor Challenges and Solutions, by Johan Sörman
- A Framework for the Establishment of Risk Indicators, by K. Øien

Session 2D Risk Assessment for Fireworks Facilities

10:30 am – 12:00 pm Chair: D. Bradley Flamingo Room A-B

- Risk Analysis of a Firework Storage Facility, by P.A.M. Uijt de Haag, G.M.H. Laheij and B.J.M. Ale
- The Explosion of a Fireworks Storage Facility and Its Causes, by B.J.M. Ale
- The Fireworks Disaster in Enschede, Part 1: Overview and Reconstruction by P.C.A.M. de Bruyn, J.W. Karelse, J. Weerheijm and R.M.M. van Wees
- The Fireworks Disaster in Enschede, Part 2: Safety Analysis by J. Weerheijm and P.C.A.M. de Bruyn

Session 2E Risk Management in Sustainable Development

10:30 am – 12:00 pm Chair: A. Gheorghe Flamingo Room C-D

- The Importance of R&D in Economic Growth (The Puerto Rico Example), by C.R. Hamill
- The Control of Major Chemical Hazards in Switzerland in the Framework of Sustainable Development Liquefied Petroleum, Ammonia and Chlorine as Examples, by Felix K. Gmünder, Patrick Meyer and Martin Schiess
- The OECD Futures Project on Emerging Systemic Risks, by R. Lahidji, P-A. Schieb and B. Stevens

Session 2F Safety Goals and Public Risk Perception

10:30 am – 12:00 pm Chair: A. Camp Tropical Room A-B-C

- Public Risk Perception: A Variable to be Considered in the Risk Evaluation Process, by Rosario Solá Farré, Rosario Martinez-Arias and Ana Prades López
- A Rational Framework for Establishing Transportation Safety Goals, by Martin L. Shooman and Joseph R. Fragola
- Are We Paying Too Much to Reduce Radiological Risk? by Herbert Inhaber
- Proposal to Define "Adequate Protection" in Quantitative Terms for USA Commercial Nuclear Electric Power Units, by Robert Christie, David Johnson, Shobha Rao, Jackie Lewis and Keith Woodard

Session 2G Structures and Construction I

10:30 am – 12:00 pm Chair: R. Matalucci Auditorium

- Risk Assessment of Coastal Concrete Structures, by Chun Q. Li and W. Lawanwisut
- An Application of Bayesian Theory to Update the Strength of Concrete Structures, by J.M. Padilla, C.Q. Li and J.J. Zheng
- Risk Assessment Methodology for DAMS (RAM-DSM), by Rudy Matalucci, Ph.D., PE

Session 3A HRA Methods

2:00 pm – 3:30 pm Chair: D. Gertman San Cristobal Ballroom A

- Identifying and Assessing Errors of Commission Results of Applying the CESA Method, by B. Reer, V.N. Dang and S. Hirschberg
- Application of an Operator-Plant Model for Dynamic Risk Assessment, by V.N. Dang
- A Method for Conflict Detection Based on Team Intention Inference, by Taro Kanno, Keiichi Nakata and Kazuo Furuta
- Modeling Decision-Making Reliability of Severe Accident Management: Methodology Development Using CREAM, by Yoshitaka Yoshida, Masanori Ohtani and Yushi Fujita

Session 3B Categorizing Uncertainty

2:00 pm – 3:30 pm Chair: M. Modarres

San Cristobal Ballroom B-C

Estimation of System Failure Probability Uncertainty Including Model Success Criteria, by James K. Knudsen and Curtis L. Smith

- A Comparison of Methods for Representing the Meaning of Uncertain Evidence, by Frank Groen and Ali Mosleh
- Fracture Toughness (K_{IC}) Uncertainty Characterization and Treatment, by Mohammad Modarres and Fei Li
- Some Remarks on Variability and Uncertainty in the Predictive, Epistemic Approach by Kjell Sandve

Session 3C Risk-Informed Regulation of Nuclear Materials and Waste – An Overview

2:00 pm – 3:30 pm Chair: L. Kokajko

San Cristobal Ballroom E-F

- Overview of US Nuclear Regulatory Commission Program on Risk-Informing Materials and Waste Arenas, by C.H. Lui and M.V. Federline
- Safety Goal Formulation in the Nuclear Materials and Waste Areas, by R.A. Bari, V. Mubayi and D. Damon
- Strategies for Developing Non-Nuclear Power-Plant Nuclear Facility Safety Goals, by Tadakuni Hakata

Session 3D Fire Risks I

2:00 pm – 3:30 pm Chair: N. Siu Flamingo Room A-B

- Fire Detection and Suppression: PRA Modeling and Data Analysis, by Steven P. Nowlen, Andrew Boone, Alan Kolaczkowski, Dana Kelly, Nathan Siu and H.W. Roy Woods
- Fire PSA Upgrade and Applications for Salem Units 1 & 2, by Paul Guymer, We He, Denis Shumaker, Vesna Dimitrijevic, Fred Mowrer and Dave Pepe
- French (IRSN) Fire PSA in a PWR 900 MWE Control Room, by M. Chaussard, J.L'henoret, G. Barrachin, F. Pichereau and J.M. Matteï

Session 3E Environmental Infrastructure

2:00 pm – 3:30 pm Chair: A. Taboas Flamingo Room C-D

- Data Transmission of Pipeline Status, by Karen A Moore, Robert Carrington and John Richardson
- Establishing an Effective Nuclear Safety and Environmental Assurance Infrastructure in the Former Soviet Union (FSU), by O.K. Earles, P.B. Wells, L.H. Hansen, E. A. Howden, J. Connery, Dr. I. Tazhibayeva, Dr. O. Romanenko, A. Klepikov and D.S. Newton
- The Mound Plant Tritium D&D Large Scale Demonstration and Deployment Project Linking Innovative Technology with Baseline Expertise to Accelerate Shutdown, by Dick Blauvelt
- The D&D Program at Argonne National Laboratory, Demonstrating Safe, Cost-Effective Decommissioning for Nuclear Facilities, by S.K. Bhattacharyya (Present but not publish)

Session 3F Risk and Safety Assessment in Transportation Systems I

2:00 pm – 3:30 pm Chair: V. Ho

Tropical Room A-B-C

- Benchmarking Risk Management Indices of the Railway Industry, by H. Zerkani, R.N. Dumolo and V. Ho
- Risk Acceptance Criteria for Long Railway Tunnels: A Need for Periodic Review, by D. Diamantidis
- What Management Factors Make a Difference to Safety in Metro Railways? by Robin Hirsch and Jill Collis
- Development of an Overall Model and Supporting Criteria to Assess the Safety of the Irish National Railway Network, by A.J. Smith

Session 3G Water Infrastructure I

2:00 pm – 3:30 pm Chair: M. Hightower Auditorium

- Use of Probabilistic Risk-Based Methods to Enhance Water Infrastructure Safety and Reliability, by M.M. Hightower
- Water Infrastructure Security Risk Management, by Jeffrey J. Danneels
- A Probabilistic Assessment of Water-Resource Sustainability: Using the Middle Rio Grande as a Test Bed, by Stephen H. Conrad, Richard P. Thomas and Vincent C. Tidwell
- Probabilistic Modeling of the Groundwater and Surface Water Supply of the Middle Rio Grande Region by Deborah L. Hathaway and Karen J. Lewis

Coffee & Refreshment Break

3:30 pm - 4:00 pm

Session 4A Panel 1 – Sensitivity of Coastal and Inland Resources to Spilled Oil

4:00 pm - 5:30 pm

Dr. P.A. Gelabert, Moderator

San Cristobal Ballroom A

Panelists:

• Angel C. Rodríguez, US Environmental Protection Agency, San Juan, PR

- Ernesto Díaz, PR Department of Natural and Environmental Resources, San Juan, PR
- Genaro Torres, PR Environmental Quality Board, San Juan, PR
- Felix Lopez, US Fish & Wildlife Service, Boquerón, PR

Session 4B Empirical Bases and Experience in HRA

4:00 pm – 5:30 pm Chair: D. Bley

San Cristobal Ballroom B-C

- Simulator Experiments as Empirical Basis for Performance Shaping Factors in HRA, by P.Ø. Braarud
- Human Performance Contribution to Risk in Operating Events, by David I. Gertman, Bruce P. Hallbert, Harold S. Blackman, Mark Parrish, Eugene A. Trager, J.J. Persensky and Joel J. Kramer
- Reviews of Human Performance in Operating Events and Relationships with IPEs, by Bruce P. Hallbert, David I. Gertman, Ph.D., Harold S. Blackman, Ph.D., Julius J. Persensky and Eugene A. Trager

Session 4C Hazard Identification and Analysis I

4:00 pm – 5:30 pm Chair: K. Wahi

San Cristobal Ballroom E-F

- On Practical Applications of Probabilistic Accident Models to Industrial Work Fields, by Dr. Shigeo Hanayasu
- Using Historical Data to Assess the Frequency of Fire Initiating Events at Industrial Facilities, by Paul J. Amico and Cindy R. Ching
- Probabilistic Assessment of Munition Failure in a Fire at a Chemical Agent Disposal Facility, by David R. Bradley, Ali Mohamed and Robert T.
 Bailey

Session 4D PSA Methods I

4:00 pm – 5:30 pm Chair: M. Golay Flamingo Room A-B

- High Level Stochastic Petri Net Simulation for Reliability, Availability, Maintainability and Cost Analysis, by S.M.O. Fabricius and W. Kroger
- A Petri Nets/Monte-Carlo Simulation Approach to Assess System Performance, by Jean-Luc Chabot, Francois Ducamp, Yves Dutuit and Antoine Rauzy
- Improvement of the GO-FLOW Methodology Reliability Analysis of a Continuously Maintained System, by Takeshi Matsuoka
- On the Quantitative Analysis of Sequential Failure Logic Using Monte Carlo Method for Different Distributions, by Wei Long, T.L. Zhang, Y.F. Lu and M. Oshima

Session 4E Reprocessing Plant Applications

4:00 pm – 5:30 pm Chair: A. Dykes Flamingo Room C-D

- Topics of PSA Study for a Reprocessing Plant at NUPEC Frequency Analysis with Consideration of Grace Time and Process Condition, by Yoshinori Ueda and Susumu Mitake
- Topics of PSA Study for a Reprocessing Plant at NUPEC (II) Computer Aided Frequency Analysis System Based on Dynamical Scenarios, by Hidetoshi Endo and Susumu Mitake
- Development of Support System for Maintenance and Administration of Reprocessing Plant Equipment, by Toshiya Yamaguchi and Shinichi Inami

Session 4F Safety Assessment in Air Traffic Control

4:00 pm – 5:30 pm

Chair: B. Ale

Tropical Room A-B-C

A Theoretical Framework for the Safety Verification of Air Traffic Control by Air Traffic Controllers Based on Extended Vector Annotated Logic

Auditorium

Program, by Kazumi Nakamatsu, Hiroshi Suito, Jair Minoro Abe and Atsuyuki Suzuki

- Wake Vortex Safety Evaluation of Single Runway Approaches under Different Weather and Operational Conditions, by G.B. van Baren, L.J.P. Speijker and A.C. de Bruin
- Influence of Average Relative Along-Track Speed on a Longitudinal Collision Risk Model, by Sakae Nagaoka

Session 4G Risk Informed Nuclear Power Plant Applications I 4:00 pm – 5:30 pm Chair: M. Drouin

- Risk Informed Regulation and Safety Management of NPP's, by A. Julin, I. Niemelä and R. Virolainen
- Probabilistic Safety Assessment Techniques Applied to Risk-Informed Asset Management, by James K. Liming and Ernest J. Kee
- Using PSA for Safety Related Decision Making Problems and Possibilities, by M. Knochenhauer
- A Risk-Based Compliance Approval Process for Engineering Systems with Considerations for Safety Equivalency, by Robb C. Wilcox, Ph.D., PE and Bilal M. Ayyub, Ph.D., PE

Tuesday, June 25, 2002

Session 5 Plenary Session II 8:00 am – 9:00 am Chair: Col. I. Falto-Heck San Geronimo Ballroom B

"Probabilistic Risk Assessment at NASA: Methods and Applications,"
 Dr. Michael Stamatelatos
 Manager of Agency Risk Assessment
 NASA Headquarters
 Washington, DC, USA

Session 6A Panel 2 -Risk Informed Regulation for Operating Reactors 9:15 am – 10:45 am
M. Drouin, Moderator
San Cristobal Ballroom A

Panelists:

- Rick Grantom, STP Nuclear Operating Company
- Bill Burchill, Exelon Corporation
- Scott Newberry, RES, US Nuclear Regulatory Commission
- Gary Holahan, NRR, US Nuclear Regulatory Commission

Session 6B Management of Human Error Risks

9:15 am – 10:45 am Chair: J. Forester

San Cristobal Ballroom B-C

- Contribution of the Unsafe Acts Analysis to Safe Design and Application to the Printing Sector, by Cecilia De La Garza and Elie Fadier
- Human Error Management Impact on Design and Assessment of Safety Measures, by P.C. Cacciabue
- The Problems of Examining Avionic Systems on Aircraft with Service Life Extended, by Jan Borgon, Slawomir Michalak and Andrzej Szelmanowski
- Human Performance Characterization in the Reactor Oversight Process, by David I. Gertman, Bruce P. Hallbert, David Prawdzik, Harold S. Blackman, Joel Kramer, Eugene A. Trager and J.J. Persensky

Session 6C Safety Issues in Roadway Traffic 9:15 am – 10:45 am

9:15 am – 10:45 am Chair: T. Kohda

San Cristobal Ballroom E-F

- A Risk-Based Evaluation of Safety Development in Road Traffic, by Z. Vintr, R. Holub and M. Vala
- Estimation of Risk Reduction made by Distance Warning System and Emergency Braking System for Motor Vehicles, by Eiichi Kato, Koichi Suyama and Yoshinobu Sato
- Development of Safety Warrants for Roadway Lighting, by James H. Lambert

• Functional Safety of Driver-Support System for Prevention of Right-Turn Collisions, by Haihong Ye, Yoshinobu Sato, Kiichi Yamada, Takuya Kawahara and Koichi Suyama

Session 6D Fire Risks II

9:15 am - 10:45 am Chair: S. Nowlen Flamingo Room A-B

- Development of Fire Risk Evaluation System Introductory Remarks and Systems Overview, by Kazuo Iwama, Toshio Koshiba, Shuichi Ohta, Masahiro Yamashita , Masahiko Fuji i and Yoshinobu Sato
- Development of Fire Risk Evaluation System Risk Analysis Module, by Masahiro Yamashita, Kazuo Iwama, Toshio Koshiba, Shuichi Ohta, Masahiko Fujii and Yoshinobu Sato
- Modeling of Escalation of Fire/Explosion for the Offshore Facilities, by James C. Lin

Environment, Safety & Health Programs Session 6E

9:15 am - 10:45 am Chair: I. Papazoglou Flamingo Room C-D

- Health, Safety and Environmental Performance Measures/Metrics Designed to Drive Performance Improvement, by David A. Waite and Donald A. Chapman
- Risk Analysis of Heating and Refrigeration Systems with Natural Working Fluids, by Felix K. Gmünder, Martin Wolfer and Esther Seitz
- A Strategy and Technical Specifications for the Sustainable Management of Hazardous Waste in Greece, by A. Papadopoulos, D. Fatta, A. Mentzis, F. Kourmoussis, G. Papadakis and M. Loizidou
- The Benefits of Clean Air for Lungs and Wallets: Environmental Damage Costs of Air Pollution in Belgium 2000-2010, by Leo De Nocker, Rudi Torfs and Luc Int Panis

Session 6F **Risk Analysis for Space Systems**

9:15 am - 10:45 pm Chair: M. Stamatelatos **Tropical Room A-B-C**

- Comparisons of Differences and Commonalities of Nuclear Power Plant PRAs and the Space Shuttle PRA, by Feng Hsu and W.E. Vesely
- An Application of the Probabilistic Risk-Based Design (PRBD) Process to Mars Sample Return Missions, by Joseph R. Fragola and Jan W. Railsback
- Uncertainty Analysis for the Cassini Space Mission, by G. D. Wyss
- System Reliability Estimation Considering Dependencies, by Ø. Reitan and D. Ruzafa

Structures and Construction II Session 6G

9:15 am - 10:45 am Chair: C.Q. Li Auditorium

- Risk Analysis/Management Application in Public Mega Projects, by Robert N. Harvey
- Risk Mitigation Approaches for the Community that Creates and Cares for the Built Environment, by Edward T. Schreiber and Thomas H. Henderson, P.E.
- The Risk Management Dilemma in Building Construction, by John Strothman
- The Meaning of Life (An Assessment of Financial Risk), by James Watson

Coffee Break 10:45 am - 11:15 am Session 7A Use of Simulator Data in HRA

11:15 am - 12:45 pm Chair: R. Christie

San Cristobal Ballroom A

- The Step Complexity Measure for Emergency Operating Procedures Measure Validation Through Comparing with Simulation Data, by Jinkyuh Park, Wondea Jung and Jaejoo Ha
- Assessing NPP Emergency Operation with Simulators. ANACONDAS: A Method for Qualitative Analysis of Crew's Activity, by Genevieve Filippi and Genevieve Saliou
- Bohunice Simulator Data Collection Project, by Ivan Cillík and Jan Procháská

Session 7B **Probabilistic Analysis of Precursor Events**

11:15 am - 12:45 am Chair: J-M. Lanore

San Cristobal Ballroom B-C

- Exercise of Comparison Concerning the Same Incident Quantified by IPSN, GRS and NUPEC, by Veronique Fauchille, J.M. Lanore, H. Hörtner, S. Babst, M. Fukuda and T. Uchida
- Precursor Event Analysis at the Hungarian Atomic Energy Authority, by Zoltán Karsa and Geza Macsuga
- Results and Insights of the Continuous Precursor Analysis for German Nuclear Power Plants from 1997 1999, by H. Hörtner, S. Babst and G. Gaensmantel, presented by K. Koeberlein

Session 7C Risk-Informed Regulation of Nuclear Materials and Waste – Implementation Framework

11:15 am – 12:45 pm Chair: D. Damon

San Cristobal Ballroom E-F

- The Case Study Approach to Risk-Informing Regulation of Nuclear Materials and Waste, by L.E. Kokajko and R.M. Shane
- Risk Informing Nuclear Materials and Waste Regulation: Summary and Insights from Eight Case Studies, by Marissa G. Bailey
- The Role of Effective Communication in Risk-Informing Nuclear Materials and Waste Regulations, by P.A. Rathbun and S.M. Frant

Session 7D PSA Methods II

11:15 am – 12:45 pm Chair: V. Dandini Flamingo Room A-B

- Requirement Dependency of a Safety Integrity Analysis Method, by ir. E.G. van den Bliek, M.Th. Logtenberg, M. Phil, dr.ir. J.L. Rouvroye and prof.dr.ir. A.C. Brombacher
- Boolean Logic Driven Markov Processes: A Powerful New Formalism for Specifying and Solving Very Large Markov Models, by Marc Bouissou
- Object-Based Approaches to Risk and Reliability Analysis: OBEST Methodology and Applications, by Gregory D. Wyss and Felicia A. Duran
- Optimization of Testing Frequency for Systems with Components with Limited Outage Duration, by I.A. Papazoglou

Session 7E Software Reliability

11:15 am - 12:45 pm Chair: R.D. Bermúdez Flamingo Room C-D

- Development of a Method for Quantifying the Reliability of Nuclear Safety-Related Software, by Yi Zhang and Michael W. Golay
- Elimination of Crucial Faults for Embedded Software Using Functional Priority Testing, by Masayuki Hirayama, Tetsuya Yamamoto, Jiro Okayasu, Osamu Mizuno and Tohru Kikuno
- Estimating Software Reliability from Process and Product Evidence, by Ganesh J. Pai, Susan K. Donohue and Joanne Bechta Dugan

Session 7F Risk and Safety Assessment in Transportation Systems II

11:15 am – 12:45 pm Chair: R. Hirsch Tropical Room A-B-C

- Pros and Cons in Using Risk Tolerance Criteria, by Charles Milloy and Andrzej Formaniak
- Risk Acceptability Criteria for Railways, by O. Nordland and F. Renpenning
- The Preliminary Model of Evaluating and Maintaining the Operating Readiness for the Traffic System, by M. Worropay, T. Nieagoda and K. Migawa
- Allocating Safety Integrity Levels in Practice, by Odd Nordland

Session 7G Water Infrastructure II

11:15 am – 12:45 pm Chair: S. Conrad Auditorium

- Analyzing Water/Wastewater Infrastructure Interdependencies, by Jerry Gillette, Ronald Fisher, James Peerenboom and Ronald Whitfield
- Water Infrastructure Interdependencies and Macro Economic Consequence Modeling of California, by Theresa Brown, Ph.D. and Walt Beyeler
- Modeling of Interdependent Infrastructures, by C. Unal, B. Bush, K. Werley and P. Giguere
- Relative Risk Assessment for Water Utility SCADA Systems, by W.F. Young and J.M. DePoy

IAPSAM General Assembly Lunch

12:45 pm – 2:15 pm

San Geronimo Ballroom B

- Introduction of Keynote Speaker, Dr. E.J. Bonano
- "Science and Technology Initiatives in Puerto Rico,"
 Ing. Manuel Hormaza, Director,
 Science & Technology Program, Puerto Rico Industrial Development Corporation,
 Puerto Rico Department of Commerce and Economic Development, San Juan, PR

Session 8A Panel 3 - Risk Informed Regulation for Advanced Reactors 2:15 pm – 3:45 pm M. Drouin, Moderator

San Cristobal Ballroom A

Panelists:

- Scott Newberry, RES, US Nuclear Regulatory Commission
- George Davis, Westinghouse
- Steve Floyd, Nuclear Energy Institute
- Allen Camp, Sandia National Laboratories

Session 8B Reliability Analysis Methods and Applications I

2:15 pm – 3:45 pm Chair: H.G. Kang

San Cristobal Ballroom B-C

- Development of Analysis Methodology of Component Reliability Data for Korea Information System for Nuclear Data (KIND), by Sun Yeong Choi, Sang Hoon Han and Su Cheol Lee
- EPRI Human Reliability Analysis Calculator, by Jeffrey A. Julius, Frank Rahn and Gerald Loignon
- Risk-Based Design of Safety Actions for Potential Accident Causes Based on System Behavior Model, by Takehisa Kohda and Koichi Inoue

Session 8C Nuclear PSA Applications – I 2:15 pm – 3:45 pm

Chair: S. Levinson

San Cristobal Ballroom E-F

- PSA Evaluation of the Advanced BWR SWR 1000 with Passive Safety Systems, by W. Brettschuch, H. Fabian and H. Schmaltz
- Low Power and Shutdown PSA of the J. Bohunice V1 NPP, by Z. Kovacs and I. Pnacek
- Application and Use of PSA-based Event Analysis in Belgium, by Mark Hulsmans, B. Tombuyses and P. De Gelder

Session 8D Sensitivity and Importance Analysis Methods I

2:15 pm – 3:45 pm Chair: B. Sagar Flamingo Room A-B

- A Sensitivity Analysis Technique for Uncertainty, Risk and Reliability Analysis Based on Iterative Quasi-Monte Carlo Sampling, by David G. Robinson
- Using Sensitivity Analysis to Support Robust Adaptive Planning, by Robert Lempert, Brian Williams and Joseph Hendrickson
- A Partitioning Method for Identifying Important Model Parameters, by Osvaldo Pensado, Velin Troshanov, Gordon Wittmeyer and Budhi Sagar
- Importance Measures for Two New Applications, by James C. Lin

Session 8E Integrated Safety Management

2:15 pm – 3:45 pm Chair: D. Ferrata Flamingo Room C-D

- Overall Strategy for Risk Assessment and Prioritizations in the HSE Area, by Per Hokstad and Trygve Steiro
- New Approaches to Safety Management, by John Wreathall and Ashleight Merritt
- A Risk Determining Model for Hazardous Material Operations, by Michael E. Cournoyer, Ph.D. and Jeffrey H. Dare

Session 8F Level 2 PSA Methods

2:15 pm – 3:45 pm Chair: A. Dykes Tropical Room A-B-C

- An Integrated Approach to Living Level 2 PSA, by Risto Himanen and Heikki Sjovall
- Integrated Level 1 / Level 2 PSA Models and Release Frequency Importance, by Martin Richner, Samuel Zimmermann and Donald J. Wakefield

Neural Modelling of Severe Accidents Evolution in Dynamic PSA of Level II, by M. Marseguerra, E. Zio, C. Modica and F. Parozzi

Session 8G Graphical Risk Methods

2:15 pm – 3:45 pm Chair: M. Sattison Auditorium

- The Automatic Generation of Fault Trees Using Digraph, by Jiyong Kim, Wonsuk Jung, Il Moon and Keunwon Lee
- The Aerospace Fault Tree Handbook Being Developed for NASA: Overview and Viewpoints on Fault Tree Issues, by Bill Vesely, Michael Stamatelatos and José Caraballo
- Dependability Analysis Using Multiple-Valued Decision Diagrams, by Liudong Xing and Joanne Bechta Dugan
- The 'Risk' oMeter' Concept, by Adrian V. Gheorghe and Dan V. Vamanu

Coffee & Refreshment Break 3:45 pm – 4:15 pm

Session 9A HRA Applications

4:15 pm – 5:45 pm Chair: J. Julius

San Cristobal Ballroom A

- Omission, Commission and Weight of Factors Highlighted by RECUPERARE Method, by N. Matahri, G. Baumont and P. Quentin
- Retrospective HRA by PET Method, by Gueorgui Petkov
- The Fusion of Indirect Evidence and Opinion in a Human Reliability Study of Railroad Operations, by John Wreathall, Dennis C. Bley, Emilie Roth, Jordan Multer and Thomas Raslear

Session 9B Sensitivity and Importance Analysis Methods II

4:15 pm – 5:45 pm Chair: C. Smith

San Cristobal Ballroom B-C

- Sensitivity Analysis and the Delta Hedging Problem, by A. Rossi and F. Campolongo
- Uncertainty and Sensitivity Analyses Using an Accident Consequence Assessment Code OSCAAR, by T. Homma, K. Tomita and Y. Inoue
- High Dimensional Model Representations with Applications in the Chemical/Physical Sciences, by Herschel Rabitz
- Sensitivity Analysis for Risk Assessment, by A. Saltelli, F. Campolongo and M. Saisana

Session 9C PRA for Orbital Human Systems

4:15 pm – 5:45 pm Chair: P. Rutledge

San Cristobal Ballroom E-F

- Modeling Process Risk Contributions for the Space Shuttle Probabilistic Risk Assessment (PRA), by William E. Vesely and Roger L. Boyer
- JEM Probablistic Safety Assessment, by Tsutomu Fukatsu, Nobuo Takeuchi, Takeyoshi Seike, Koji Oga and Yoshinobu Sato
- A Practical Approach for Approximating Unavailability in Complex Repairable Systems: The International Space Station Probabilistic Risk Assessment, by Alfredo E. Colón and Clayton Smith

Session 9D Safety Issues for Nuclear Waste Systems

4:15 pm – 5:45 pm Chair: E. Manes Flamingo Room A-B

- Estimating the Upper Bounding Drum Activity Level Using Nonparametric Statistics, by Daryl Haefner, Amadeo G. Ramos and Ivan Stepan
- A Risk Analysis of Dry Cask Storage, by Christopher Ryder, Edward Rodrick, Lee Abramson and Jack Guttmann
- Facts and Frictions in TRU Waste Management by Roger L. Huchton and Andrew Montoya
- A Methodology for Preclosure Risk Assessment for a Geologic Nuclear Waste Repository, by R. Benke, B. Dasgupta, B. Sagar and A. Chowdhury

Session 9E Computer Code Applications in Nuclear Power Plants

4:15 pm – 5:45 pm Chair: C. Park Flamingo Room C-D

- Development of a Transient Hydrogen Generation Model for Metal-Water Interactions and Application for the MAAP4 Code, by Jin Yong Lee, Kune Y. Suh and Goon Cherl Park
- Improvement of HYCA3D Code and Experimental Verification in Rectangular Geometry, by Yong-Seog Choi, Un-Jang Lee, Jung-Jae Lee and Goon-Cherl Park
- Study of Experimental Validation for Combustion Analysis of GOTHIC Code, by Jin Yong Lee, Sueng Yeon Yang, Goon Cherl Park and Suk-ho Chung

Session 9F **Use of PSA in Reactor Operations**

4:15 pm - 5:45 pmChair: R. Himanen Tropical Room A-B-C

- Beyond Level 1 & 2 PRAs: B&WOG's Development of Level 3 Models, by Stanley H. Levinson and P. Doug Paul
- Risk Based Optimization of Safety Equipment Testing and Maintenance Schedules, by Dr. Marko Cepin
- Application of PSA to Evaluate Allowed Outage Time (AOT) in Technical Specifications in Japan, by Mamoru Fukuda, Hiromu Kikuchi, Osamu Kawabata, Mitsumasa Hirano, Masahide Kobayashi andHaruki Madrame
- Categorizing Components Using PRA Results, by A.C. Moldenhauer and D.W. Stillwell

Session 9G Risk & Safety Management in Chemical Facilities

4:15 pm – 5:45 pm Chair: C. Aponte Auditorium

- A Framework of Independent Protection Layer Design for Process Industries, by Atsushi Aoyama, Hiroshi Sumida, Yoshio Kawauchi, Susumu Ohara, Tetsuo Fuchino, Rafael Batres, Yukiyasu Shimada, Kazuhiro Takeda, Nobuo Takagi and Yuji Naka
- Reliability Model for Underground Gas Pipelines, by Roger Cooke, Eric Jager and Daniel Lewandowski
- Human Factors Analysis in the Chemical Industry, by Cornelia Spitzer
- Development of a Master Logic Diagram for a Floating, Production, Storage and Offloading Facility, by James C. Lin

Wednesday, June 26, 2002

Session 10 **Plenary Session III**

8:00 am - 9:00 am Chair: J. Escabi

San Geronimo Ballroom B

• "Environmental Situation in the Caribbean and Latin America,"

C.-A. Soderberg

Director

Caribbean Region

US Environmental Protection Agency, San Juan, PR

Session 11A Panel 4 - Risk Management Analysis of Hazardous Waste Generation, State and International Regulations, Recycling, Treatment and Disposal in Puerto Rico and the Caribbean Basin

9:15 am - 10:45 am

R. Vázguez, Moderator

San Cristobal Ballroom A

Panelists

- Edna Vázquez-Bonnet, Bonnet Insurance, San Juan, PR
- Pedro Gelabert, US Environmental Protection Agency, San Juan, PR
- Luis Rivera, Abbott Laboratories Puerto Rico Inc., Barceloneta, PR
- Luis Figueroa, Envirosense Corporation, Rio Piedras, PR

Session 11B **Uncertainty and Sensitivity Analysis for Nuclear Waste Systems**

9:15 am - 10:45 am

Chair: N. Eisenberg

San Cristobal Ballroom B-C

Safety Assessment of a Spent Nuclear Fuel Repository: Sensitivity Analyses for Prioritization of Research, by Allan Hedin

- Numerical Confidence in the Results of Performance Assessment for a High-Level Radioactive Waste Repository, by David W. Esh, Richard B. Codell and Timothy J. McCartin
- Mean-Based Sensitivity or Uncertainty Importance Measures for Identifying Influential Parameters, by Sitakanta Mohanty and Y-T. (Justin) Wu

Session 11C Risk-Informed Regulation for Nuclear Materials and Waste – Results of Case Studies I

9:15 am – 10:45 am Chair: R. Bari

San Cristobal Ballroom E-F

- Risk Informing Site Decommissioning A Case Study, by V. Mubayi, R.A. Bari and M. Bailey
- Risk Informing Uranium Recovery, by E. J. Grove, R.A. Bari and M. Bailey
- Risk Informing Nuclear Waste: A Case Study on the Regulation of Spent Fuel Interim Storage, by C. H. Lui, A. Wong and L. E. Kokajko
- A Case Study of Risk Informing 10 CFR Part 76: Seismic Issues at Paducah Gaseous Diffusion Plant, by J. Xu, R.A. Bari and M. Bailey

Session 11D Risk and Decision Analysis in Energy Projects

9:15 am – 10:45 am Chair: G. Santos-León Flamingo Room A-B

- A Multiple-Criteria Decision-Aid Methodology for Appropriate Rural Electrification in Developing Countries, by P. Romera and P. Linares
- Assessing and Managing the Risks of Fuel Compounds: Ethanol Case Study, by David W. Layton and David W. Rice
- Risk Benefits of Climate-Friendly Energy Supply Options, by S. Hirschberg and P. Burgherr
- Using Life Cycle Analysis to Assess Risk and Benefits of Bioethanol Technology, by John Sheehan

Session 11E Computer-Based Safety Management Applications

9:15 am – 10:45 am Chair: A. Montoya Flamingo Room C-D

- Web-Based Systems That Facilitate Graded Application of Fully Integrated Risk Management, by Dave McCormack, Don Chapman, Mollie Netherland and David Waite
- FITS (Fittings Inventory Tracking System on the Fast Lane), by Bernadette Martínez and Robin Perini
- A Web-based System to Identify Corporate-Wide Compliance Obligations, by C.D. Ferrata
- A Siting Approach for Nuclear Waste Disposal Using GIS, by Grant Sheng and István Almási

Session 11F Risk and Safety Assessment in Transportation Systems III

9:15 am – 10:45 am Chair: C. Milloy Tropical Room A-B-C

- Barrier Removal Study in a Railway Simulation, by F. Vanderhaegen, P. Polet, Z. Zhang and P. Wieringa
- Safety Features and Certification Procedure of the NOWCASTING Wind Alert System for High-Speed Trains, by Udo Steininger, Birgitt Felbermeier, Thorsten Tielkes and Gerd Matschke
- An Overview of Risk Issues in Compressed Natural Gas Buses, by S. Chamberlain, M. Modarres and F. Mowrerr
- A Study to Project the Rate of Non-Crash Vehicle Fires, by James C. Lin

Coffee & Refreshment Break

10:45am - 11:15 am

Session 12A Nuclear PSA Applications - II

11:15 am – 12:45pm Chair: G. Apostolakis San Cristobal Ballroom A

- Improvement of Scram Fault Tree on BWR Plant, by Kazuya Kato, Kazuo Sakuramoto, Yoshihiro Oyama, Koichi Miyata and Masashi Yokota
- Modeling Power Non-Recovery Using the SAPHIRE Risk Assessment Software, by Curtis Smith, John Schroeder, Scott Beck and James Knudsen
- A Long Term Cooling Risk Analysis Using Fault Tree Techniques, by K.E. Jankala and J.K. Vaurio
- Ignitor Project: The Impact of Some Design Improvements on the Installation Safety, by E. Ruscello, A. Carpignano and M.T. Porfiri

Session 12B Reliability Analysis Methods and Applications II

11:15 am – 12:45pm Chair: B. Thompson

San Cristobal Ballroom B-C

- Army Focused Recapitalization Program, by Daniel Briand and Bruce M. Thompson
- The Problems of Examining Avionic Systems on Aircraft with Service Life Extended, by Jan Borgon, Slawomir Michalak and Andrzej Szelmanowski
- Using Stochastic Simulation to Assess Different Approaches to Reliability Data Estimation, by G. Becker, L. Camarinopoulos, R. Görtz, E. Hofer and D. Kabranis

Session 12C Risk-Informed Regulation for Nuclear Materials and Waste – Results of Case Studies II

11:15 am – 12:45pm Chair: M. Bailey

San Cristobal Ballroom E-F

- Risk Informing Nuclear Materials: Case Study on the Regulation of Fixed Gauges, by R.M. Shane
- Risk Informing Nuclear Materials: A Case Study on the Regulation of Static Eliminators, by James G. Danna
- Risk Informing Nuclear Materials: A Case Study on the Regulation of Gas Chromatographs, by James A. Smith
- Using Risk Information in Nuclear Materials and Waste: The Trojan Reactor Vessel Shipment, by D.R. Damon

Session 12D Public Participation and Risk Communication I

11:15 am – 12:45pm Chair: R. Vazquez Flamingo Room A-B

- Risk Analysis Applying the Principles in a Consumer Environment, by Louis H.J. Goossens
- Risk Management of Potential Liabilities Associated with Stakeholder Involvement in Environmental Management, by Evaristo J. Bonano, Ph.D.
- Analysis of Consensus Development Process on Risk-Relevant Social Decision, by K. Furuta and K. Nakata

Session 12E Selecting Uncertain Input Parameter Values

11:15 am – 12:45pm Chair: M. McKay Flamingo Room C-D

- Approach to Sensitivity and Importance Analysis When the Output Variables are Functions, by Katherine Campbell (Present but not publish)
- Orthogonal Arrays for Computer Experiments to Assess Important Inputs (LA-UR-02-1434), by L.M. Moore, M. McKay and T. Graves
- Parameter Sampling and Metamodel Generation for Nonlinear Finite Element Simulations, by A.L. Cundy, J.F. Schultze, F.M. Hemez, S.W. Doebling, J. Hylok and D. Bingham

Session 12F Practical Applications of Expert Judgements

11:15 am – 12:45pm Chair: S. Mohanty Tropical Room A-B-C

- Practical Application of Expert Judgment in Assessing Operation Experience for Generating Reliability Data, by A. Kreuser, J. Peschke and C. Verstegen
- Application of Expert Judgment Deriving from a Benchmark Exercise in the Quantitative Risk Assessment of Chemical Installations, by Ioannis
 A. Papazoglou, Zoe Nivolianitou, Michalis D. Christou and Olga Aneziris
- Dependence between Experts Empirical Results, by Roger Cooke and Maarten Kallen
- Using Risk as a Basis for Nuclear Proliferation Decisions, by G. D. Wyss, D. S. Blair, P. E. Rexroth, G. E. Rochau and T. T. Sype

Session 13A Reactor Shutdown PSA

2:15 pm – 3:45 pm Chair: J. Lehner

San Cristobal Ballroom A

- Simplification Techniques Used in LP&SD PSA by COOPRA Member Countries, by J.L. Calvo, J.J. Fiol, M. Drouin and E. Lois
- (COOPRA) Research Program Perspectives on Low Power and Shutdown Initiating Event Risk, by E. Lois, M. Drouin, D. Whitehead, L. Chu and J. Lehner
- Second Generation Shutdown Safety Monitor Modeling, by Jeffrey A. Julius and Jan Grobbelaar

 Probabilistic Safety Analysis for a Modern 1300-MW_E Pressurized Water Reactor under Low-Power and Shut-Down Conditions, by Dieter Müller-Ecker, Gerhard Mayer and David Gassmann

Session 13B Risk Assessment and Management for Space Systems

2:15 pm – 3:45 pm Chair: S. Guarro

San Cristobal Ballroom B-C

- Use of ProbabilisticMethods to Support Risk-Informed Decision Making for Flight Projects at the Jet Propulsion Laboratory, by Todd Paulos and Timothy Larson
- Risk Management Case Study: Space Based Laser (SBL) Integrated Flight Experiment (IFX), by Col. I. Falto-Heck and N. Sherman
- Continuous Aerospace Risk Management and Assessment (CARMA): Process, Models and Application in Space System Programs, by S.B. Guarro and K.E. Feldman
- Launch Vehicle Accident Assessment for Mars Exploration Rover Missions, by Michael Yau, Laurence Reinhart and Sergio Guarro

Session 13C System Health Monitoring and Maintenance

2:15 pm – 3:45 pm Chair: C. Kara-Zitri San Cristobal Ballroom E-F

- Consequence Analysis in Predictive Health Monitoring Systems, by Bruce M. Thompson, James E. Campbell and Laura Swiler
- Extension of Reliability Centered Maintenance Methodology to Risk-Informed Maintenance, by R. J. Muvihill and R. Gulati
- Stochastic Maintenance Planning for a Repairable System which is Inoperative During Maintenance Operations, by B. Castanier, C. Bérenguer and A. Grall
- A Human-Machine Interface for a Nuclear Power Plant Health Monitoring System, by Daryl L. Harmon and C. Frank Ridolfo

Session 13D Risk Assessment for Critical Infrastructures

2:15 pm – 3:45 pm Chair: A. Gheorghe Flamingo Room A-B

- A Methodology for the Efficient Prioritization of Infrastructure Renewal Projects, by Dimitrios Karydas and Joseph F. Gifun
- Quantitative Vulnerability Assessment for Critical Infrastructures, by Adrian V. Gheorghe and Dan V. Vamanu
- Requirements for a Real-Time Risk Monitoring Tool to Reduce Transmission Grid-Nuclear Plant Vulnerabilities, by M.D. Muhlheim, L.C. Markel, F.J. Rahn and B.P. Singh
- A Supply and Demand System Approach to Bridge Management, by Bryan Adey, Rade Hajdin and Eugen Bruhwiler

Session 13E Quantification of Uncertainty in Practical Applications

2:15 pm – 3:45 pm Chair: S. Kondo Flamingo Room C-D

- Assessing Processes in Uncertain, Complex Physical Phenomena and Manufacturing, by Jane M. Booker, William J. Kerscher III and Ronald E. Smith
- Quantification and Treatment of Uncertainty in Human Reliability Analysis Based on ATHEANA, by J. Forester, D. Bley, S. Cooper, A. Kolaczkowski, N. Siu, E. Thornsbury and J. Wreathall
- Uncertainty Analysis of Component Failure Model Parameters in PSA: A Case Study, by Ivan Vrbanic and Romana Jordan Cizelj
- Analysis of Epistemic and Aleatory Uncertainties in the Context of a Dynamic Fire-PSA, by M. Kloos, C. Haider, E. Hofer, J. Peschke and M. Rowekamp

Session 13F Significance Determination Process

2:15 pm – 3:45 pm Chair: S-M. Wong Tropical Room A-B-C

- Significance Determination Process for Large Early Release Frequency, by Gareth Parry and R.L. Palla
- Technical Basis for Large Early Release Frequency Significance Determination Process, by Vinod Mubayi, W. Trevor Pratt and John Ridgely
- Development of Plant Models for a Significance Determinance Process (SDP) At-Power Internal Events, by M.A. Azarm, T-L Chu, J. Higgins, G. Martinez-Guridi and P.K. Samanta

• An Overview of Benchmarking of Plant-Specific Risk Models for Significance Determination Process (SDP), by See-Meng Wong

Coffee & Refreshment Break 3:45 pm - 4:15 pm

Gala Dinner 6:00pm – 10:00pm

Cuartel de Ballajá, Old San Juan

Buses begin departing from the lobby of the Caribe Hilton Hotel @ 5:45 pm

Thursday, June 27, 2002

Session 14 Plenary Session IV

8:00 am – 9:00 am Chair: A. Camp

San Geronimo Ballroom B

 "Application of Quantitative Risk Analysis in the Railway Industry" Dr. V.S. Ho, Kow Loon-Canton Railway, Co., Hong Kong

Session 15A Risk Informed Nuclear Power Plant Applications II

9:15 am – 10:45 am Chair: W. Kroeger San Cristobal Ballroom A

- Risk-Informing the Special Treatment Requirements of the NRC Regulations, by Michael C. Cheok
- Risk Informed Licensing for Advanced Reactors, by Felicia A. Duran, Allen L. Camp, Michael Golay, George Apostolakis, and Laura L. Price
- Applications Using Risk-Informed Insights, by Glen E. Schinzel

Session 15B Security and Protection

9:15 am – 10:45 am Chair: B. Biringer

San Cristobal Ballroom B-C

- United States Bureau of Reclamation Reclamation Security Risk Analysis (RSRA), by Martin Chavira
- Probabilistic Security Assessments: How They Differ From Safety Assessments, by Mark K. Snell
- Risk Assessment Methodology for Chemical Facilities, by Dr. Calvin D. Jaeger

Session 15C Programmatic Risk Management

9:15 am – 10:45 am Chair: B. O'Conner

San Cristobal Ballroom E-F

- Optimization of System and Component Reinforcement with Discrete Risk/Cost Functions, by Seth D. Guikema and M. Elisabeth Paté-Cornell
- The Use of the Probabilistic Risk Assessment Methodology for Programmatic Risk Applications, by Dr. R.J. Mulvihill
- A Systems Approach to Project Risk Management, by John P. Kindinger
- Use of Reliability and Risk Analysis in Project Risk Assessment, by Andrew A. Dykes, James K. Liming, Brian K. Olson and Alan B. Carlson

Session 15D PSA Methods - III

9:15 am – 10:45 am Chair: S. Camp Flamingo Room A-B

- Reliability Study of An Auxiliary Power System Using Fault Tree Analysis, by M. J. Vigil, M. R. Greutman, D. J. Gordon, B. A. Art and D. J. Gutierrez
- Methodology Issues and Improvement in Nuclear Power Plant PSA Data Development and Update, by Dr. Michael L. Xing, Robert L. Licata and Douglas E. Gaynor
- A Practical Approach to Integrate Level 1 and Level 2 PSA Models of a VVER-440/213 Type NPP, by Attila Bareith, J. Elter, E. Holló and Zs. Téchy

Session 15E Risk Management in Power Generation

9:15 am – 10:45 am Chair: D. Robinson

Flamingo Room C-D

- Quantitative Approach to Optimize Safety Activities, by Y. Koyama, M. Suekane and H. Takahashi
- Risk Related Topics in Strategic Electric Sector Assessment Under Sustainability Conditions: A Romanian Case Study (SESAMS-RO), by Steve Connors, Adrian V. Gheorghe, Warren Schenler and Anton Vladescu
- Application of a Multicriteria Decision Aiding (MCDA) Approach in Sustainable Electricity Generation Policies Assessment: A Swiss Case Study, by Pierre-André Haldi and Theodore S. Vlachantonis

Session 15F Expert Judgments - Techniques and Issues

9:15 am – 10:45 am Chair: I. Papazoglou Tropical Room A-B-C

- Legal Admissibility versus Technical Acceptability of Expert Judgments in Risk Assessment: An Update, by Alberto A. León, JD, Ph.D. and Evaristo J. Bonano, Ph.D.
- A Simple Method for Probabilistic Inversion, by Dorota Kurowicka and Roger Cooke
- Copula Models for Expert Dependence by Robert Clemen andrew Gelman, Jim Hammitt and Roger Cooke
- Calibrating Expert Overconfidence: A Bayesian Model, by Robert T. Clemen and Casey Lichtendahl

Coffee Break 10:45 am – 11:15 am

Session 16A Panel 5, PSA R&D Programs at US Government Agencies

11:15 am – 12:45 pm N. Siu , Moderator San Cristobal Ballroom A

Panelists

- N. Siu, US Nuclear Regulatory Commission (Co-organizer)
- M. Stamatelatos, National Aeronautics and Space Administration (Co-organizer)
- L. Abbott, US Department of Agriculture
- G. DaBai, US Bureau of Land Management
- G. McIntyre, Federal Aviation Administration
- P. Szwed, US Coast Guard

Session 16B Near-Airport and Ground Operations Analysis

11:15 am – 12:45 pm Chair: P.C. Caccibue San Cristobal Ballroom B-C

- Risk Analysis of Simultaneous Missed Approaches on Schiphol Converging Runways 19R and 22, by L.J.P. Speijker, H.A.P Blom, G.J. Bakker, A.K. Karwal, G.B.Van Baren, M.B. Klompstra and E.A.C. Kruijsen
- Assessment of Aircraft Crash Probability during Takeoff and Landing at an Airport, by Amitava Ghosh and Budhi Sagar
- Application of the OBEST Methodology to a Runway Incursion Problem, by Gregory D. Wyss, Felicia A. Durán and Vincent J. Dandini

Session 16C Consequence Analysis

11:15 am – 12:45 pm Chair: W. Kastenberg San Cristobal Ballroom E-F

- Development of Consequence Analysis System for Integrated Risk Management System, by Yong Ha Kim, Sung Joon Ahn, Dong Eon Lee, Ku Hwoi Kim and En Sup Yoon
- Methodology for a Level 3 PRA Analysis of a Nuclear Reactor Accident Using MACCS2, by N.E. Bixler, D.W. Whitehead, J.J. Gregory, C.A. Ottinger, T.D. Brown and J.A. Mitchell
- Development of New State-of-the-Art Building Wake Models Using Computational Fluid Dynamics and Comparison with Other Models, by Louis F. Restrepo

Session 16D Reliability Analysis Methods and Applications III

11:15 am – 12:45 pm Chair: D. Robinson

Flamingo Room A-B

- A New Formulation of Undetectable Failures, by K. Suyama and Y. Sato
- Extensions to On-Line Maintenance Using BOP PRA Results: Initial Deployment in STPNOC Units 1 and 2, by E. Kee, D. Richards, R. Disnard, C.R. Grantom and T. Mikschl
- Predicting Failure and Validating Simulations Using Probabilistic Knowledge, by Ronald M. Dolin and Edward A. Rodríguez
- Applications of the Generalized Renewal Process in Repairable Systems, by M. Yañez, F. Joglar and M. Modarres

Session 16E Hazard Identification and Analysis I

11:15 am – 12:45 pm Chair: C. Santacana Flamingo Room C-D

- Self-Monitoring of the Safety Management System Performance in Small Sized Enterprises Handling Dangerous Substances, by G.A. Papadakis, S. Lopasis, N. Linou, D. Fatta, A. Papadopoulos and J.S. Duffield
- Novel Relative Ranking Technique Based on Accident Scenarios for Chemical Processes, by Dongwoon Kim and Il Moon
- Recent Developments in Safety Analysis Methods, by V. Rouhiainen and P. Heino
- Integration of Process Safety in CAD, by M. Marx and U. Hauptmanns

Session 16F Computer Applications in Decision Making

11:15 am – 12:45 pm Chair: R. Hunter Tropical Room A-B-C

- Application Examples of Database for the Maintenance Improvement on the Basis of Reliability Criteria, by R. Righini, A. Bottazzi, C. Fichera, M. Papastathi and L. Perasso
- Development of Support System for Diagnostics, Evaluation and Decision Making of Environmental Risk Issues, by T. Morioka, S. Ikeda, J. Sekizawa, T. Taniguchi, Y. Kido and K. Tsunemi
- Development of a Database System for Supporting Severe Accident Risk Management, by K.I. Ahn, S.Y. Park and D.H. Kim
- Development of Severe Accident Management Guidance for NPP in Korea, by Myung-ki Kim, Sung-yull Hong, Kyung-won Lee, Chung-sup Byun, and Young-ho Jin

Session 17A Structures and Construction III

2:15 pm – 3:45 pm Chair: T. Henderson San Cristobal Ballroom A

- Life-Safety Seismic Risk Estimation for Buildings A Methodology to Prioritize Buildings In A Seismic Rehabilitation Program, by John R. Baals, Jr. P.E. and Kurt A. Gernerd
- RAMPART: Status and Planned Improvements, by Regina L. Hunter and Brian Healey
- Reliability Analysis of Stochastic Degrading and Maintained Systems, by Dr. K. Balaji Rao, Mr. M.B. Anoop and Dr. T.V.S.R. Appa Rao

Session 17B Uncertainty and Sensitivity Analysis Methods

2:15 pm – 3:45 pm Chair: F. Campolongo San Cristobal Ballroom B-C

- Estimating Uncertainties when There is Little Knowledge, by A.S. Benjamin and J.R. Red-Horse
- Assessing Structural Model Uncertainty in Performance Assessments, by Tina Ghosh and George Apostolakis
- Extending the Applicability Range of DSD, by P. Wang, T. Aldemir and D.W. Miller
- A Sensitivity Study on the Factor of the PSA for Digital Equipment, by Hyun Gook Kang and Taeyong Sung

Session 17C Seismic Risk Assessment

2:15 pm – 3:45 pm Chair: S-M. Wong

San Cristobal Ballroom E-F

• Perspectives on Seismic Capacity of US Nuclear Plants Gained from the IPEEE Program, by J. Lehner, J. Xu, C.C. Lin, R. Morante, A. Rubin and N. Chokshi

- Probability Based Determination of Design Earthquakes, by T. Takada, S. Ochi and J. Kanda
- A Probabilistic Approach for Seismic Safety Evaluation of Nuclear Power Plants, by S. Kondo, M. Sakagami, K. Ebisawa and M. Hirano
- Comparative Assessment and Policy Implications of Large Earthquakes Affecting Nuclear Power Plants and the Public, by Olubukola Afolayan-Jejeloye, Jonathan Kim, Michael Golay, George Apostolakis and Gabriel Toro

Session 17D Fire Risks III 2:15 pm – 3:45 pm

- Chair: D. Karydas Flamingo Room A-B
 - Severity Factor Approaches in Fire PRA, by Steven Nowlen, Alan Rubin, Nathan Siu, H. Woods and Dennis Bley
 - The Development of Fire Severity Factors for Japanese LWRs, by Tsuyoshi Uchida, Toshihiro Aida, Mamoru Fukuda and Mitsumasa Hirano
 - Improved Risk Analysis Methodology for Determination of the Frequency of Challenging Fires, by Dennis Bley, Robert Budnitz, Stan Kaplan and Richard Magee
 - Development of Fire Risk Assessment Method Caused by Earthquake (II), by Nobuo Mitomo, Hiroshi Matsukura, Takeshi Matsuoka and Kazutaka Suzuki

Session 17E Medical and Health Risks

2:15 pm – 3:45 pm Chair: J. Zayas Flamingo Room C-D

- Implementing Risk Assessment of Emerging FOCI of Infection Methods for Early Detection and Evaluation, by Dr. Nicol Black, Liz Stokle and Dr. J. Michael Smith
- Risk Assessment in Medical Devices, by B.S. Dhillon
- Food Safety Risk Communication Training, by N.A. Eisenberg, M. Modarres, B. Silverberg and D. Trachewsky
- The Design, Development and Implementation of a Dynamic Risk Management Priority Index for Communicable Disease Control in the UK, by Dr. Chakib Kara-Zaitri, Dr. Nicol Black (CCD), Dr. Ruth Gelletlie, Dr. Howard Barnes, Dr. David Walker, Dr. Paul Hatton, Dr. Martin Schweiger and Dr. Deborah Wilson

Session 17F Risk Informed Nuclear Power Plant Applications II

2:15 pm – 3:45 pm Chair: L. Goosens Tropical Room A-B-C

- PSA Completeness In Risk-Informed Decision Making, by Martin Richner, Samuel Zimmermann, Shobha Rao and John Stetkar
- Analysis of Decision Criteria in PSA Applications, by J.-E. Holmberg, U. Pulkkinen, T. Rosqvist and K. Simola
- Addressing PRA Quality in Risk-Informed Activities, by Gareth W. Parry, Michael C. Cheok and Mary T. Drouin

Coffee & Refreshment Break 3:45 pm – 4:15 pm

Session 18A Risk Informed Nuclear Power Plant Applications IV

4:15 pm – 5:45 pm Chair: J. Lehner

San Cristobal Ballroom A

- Development of a Risk-Informed Management System Using FORTE, by Ho Seok, Dong Kyu Kim, Gie Jin Jung and Ki Young Suk
- ILK Recommendations on the use of PSA in Nuclear Licensing and Supervision Process, by Wolfgang Kröger
- Risk-Informed Alternative to 10 CFR 50.46 "Acceptance Criteria for Emergency Core Cooling Systems for Light Water Nuclear Power Reactors," by Jeffrey LaChance, Eric Haskin, Gerardo Martinez-Guridi, Alan Kuritzky, Mary Drouin, and Allen Camp
- Feasibility Study for a Risk-Informed Alternative to 10 CFR 50.44 "Standards for Combustible Gas Control System in Light-Water-Cooled Power Reactors," by Mary Drouin, Michael Snodderly, John Lehner, Vinod Mubayi and Trevor Pratt

Session 18B PSA Methods - IV

4:15 pm – 5:45 pm Chair: E. Hollo

San Cristobal Ballroom B-C

- Assessing the Results of System Safety Validation Using Bayesian Belief Networks, by Susan K. Donohue and Joanne Bechta Dugan
- Failure Mode and Effect Analysis for a Passive System, by Luciano Burgazzi

 Modeling COTS Systems for Safety-Critical Applications Using System Safety Standards by Bayesian Belief Networks, by Yangyang Yu and Barry W. Johnson

Session 18C Environment, Safety & Health Methods and Applications

4:15 pm – 5:45 pm Chair: B. Ale

San Cristobal Ballroom E-F

- A Probabilistic Environmental Risk Assessment (PERA) Application for a Waste Incineration Facility, by Youn-Jong Kim, Eui-Jong Jang, Seok-Jeong Yoon and Young-Jae Kim
- Assessing the Health Impacts Due to Airborne Emissions: The AirPacts Model, by J. Spadaro, L.M. Langlois and A. Rabl
- A Database of Environmental Parameters, Organizations and Tools for Probabilistic Risk Assessment, by Marilyn Gruebel, Susan Carson, Linda Garcia, Leonard Malczynski, Phil Pohl, Roxana Reeder, Elena Kalinina, William Reynolds, Joshua Brokaw, Margaret Ma, Jocelyn McNeely, and Andrea Old Coyote

Session 18D Information Technology Risk Assessment

4:15 pm – 5:45 pm Chair: B. Miera Flamingo Room A-B

- Risk Analysis Related issues of IT-Systems: Case Studies in Review, by R. Mock, F. Mohle and A. Fischer
- FME(C)A Technique of Assessment and Ensuring of A Corporate Computer Network Fault-Tolerance and Safety, by V. Kharchenko and A. Gorbenko
- Suitability of Risk Analysis Methods for Security Assessment of Large-Scale Distributed Computer Systems, by I. Djordjevic, E. Scharf, D. Raptis and B.A. Gran
- Probabilistic Risk Assessment in Communications Systems: A Case Study, by Roger G. Cox and Gregory D. Wyss

Session 18E Approaches for Nuclear Reactor PSAs

4:15 pm – 5:45 pm Chair: M. Hulsmans Flamingo Room C-D

- Design Optimization for Auxiliary Feedwater System Using PSA Technology for KSNP, by Myung-Ro Kim, Sun-Koo Kang, Hwan-Sung Kang, Byung-Oke Cho and Ki-Seung Park
- What PRA Needs from a Digital Systems Analysis, by E. Thornsbury, N. Siu and S. Arndut
- Inclusion of Cable Aging in Probabilistic Risk Assessment with the Use of Reliability Physics Modeling, by Arthur Buslik

Session 18F Public Participation and Risk Communication II

4:15 pm – 5:45 pm Chair: R. Thompson Tropical Room A-B-C

- Fundamentals of the Framework for Risk Criteria of Critical Infrastructures in the Netherlands, by Louis H.J. Goossens and P.H.A.J.M. van Gelder
- New Directions for a Successful Environmental Partnership, by Dr. Abbas Ghassemi, Roseann Thompson and Carolyn Perez
- On Redefining the Culture of Risk Analysis, by William E. Kastenberg
- How Can We Build a Trust in PRA? by Shigeo Kojima and Karl N. Fleming

Friday, June 28, 2002

Session 19 Plenary Session V

8:00 am – 9:00 am Chair: C. Hamill

San Geronimo Ballroom B

"Risk Assessment in Sustainable Development Projects"
 Dr. Stefan Hirschberg
 Paul Scherrer Institute, Villigen, Switzerland

Session 20A Air Transport Safety Analysis Methodologies

9:15 am – 10:45 am Chair: A. Mosleh San Cristobal Ballroom A

Application of System Safety Practices and Methods to Enhance the Safety Regulations of US Commercial Air Carriers, by Geoffrey R. McIntyre,

Ph.D.

- A Method for Setting and Optimizing Safety Targets in the Air Transport System, by A.L.C. Roelen, P.C. Cacciabue, P. Hayes, R.J. Molemaker and A. Joyce
- Assessment of the Operational Phase of Aviation Objects As Referred to the Operational-Us Safety, by Antonina Krutkow, MieczysBaw Piglas, and Józef Zurek
- Stochastic Process for Aeronautical Design and Maintenance Optimization, by D. Jeannel, B. Sommerhalter and C. Thiebault

Session 20B Real Time Monitoring 9:15 am – 10:45 am Chair: G. Wyss

San Cristobal Ballroom B-C

- Development of A Hybrid Intelligent System for On-Line Monitoring of Nuclear Power Plant Operations, by Bilge Yildiz, Michael W. Golay, Kenneth P. Maynard and Maamar Maghraoui
- Smart Equipment Technologies for Nuclear Power Plant Systems: An Overview of Demonstration Activities for a Smart Pump System, by Felicia A. Durán, James E. Campbell, Bruce Thompson, Michael Golay, Daryl L. Harmon, Kenneth P. Maynard and Joseph W. Spencer
- Adaptive Balanced Cooperative Monitoring by Semi-Mobile Sensors, by Kenji Tanaka

Session 20C Nuclear PSA Applications III

9:15 am – 10:45 am Chair: C. Spitzer

San Cristobal Ballroom E-F

- Towards a PSA Harmonization: French-Belgian Comparison of the Level 1 PSA for Two Similar PWR Types, by P. Dupuy, F. Corenwinder, J.M. Lanore, D. Gryffroy, P. De Gelder and M. Hulsmans
- Effectiveness of Preventing and Mitigating Severe Accident Management Measures for BWR Plants in Japan, by S. Sumida, K. Funayama, M. Kajimoto, M. Hirano and N. Tanaka
- Probabilistic Dynamics in Level 2 PSA:An Application of the Stochastics Module MCDET with the Deterministic Dynamic Code MELCOR, by J. Peschke, E. Hofer, M. Kloos, B. Krzykacz-Hausmann and M. Sonnenkalb

Session 20D Level 2 PSA Applications

9:15 am – 10:45 am Chair: E. Zio Flamingo Room A-B

- Probabilistic and Deterministic Analysis of Severe Accidents for a German Pressurized Water Reactor, by H. Loeffler and M. Sonnenkalb
- Screening EPR PSA Level 2 with Direct Link to Level 1 Model, by H. Kollasko, U. Krugmann, J. Eyink, H. Plank, D. Bittermann, and M. Fischer
- Level 2 PSA for a German Pressurized Water Reactor of the Latest Generation ("Konvoi"-PWR), by K. Koeberlien, J.V. Linden, H. Loeffler, D. Mueller-Ecker and C. Verstegen

Session 20E Calculational Methods in Environment, Safety & Health

9:15 am – 10:45 am Chair: A. Ghassemi Flamingo Room C-D

- Environment, Safety and Health Risk Assessment Program (ESHRAP), by Steven A. Eide and Thomas E. Wierman
- Methodology for Worker Dose Evaluation of Proposed Nuclear Facilities at the Conceptual Design Stage, by T. Pinna, A. Natalizio and M.T. Porfiri,
- Developments in HARIA-2 Research Project: A Computer Supported Approach to Emergency Planning, Analysis and Response, by R. Bovalini, M. Mazzini, M. Petea

Session 20F Standards and Regulations

9:15 am – 10:45 am Chair: B.C. Robison Tropical Room A-B-C

- Lessons from Quantitative Risk Assessments in the Netherlands: National and International Perspectives, by Michael Maharik and J.K. Vrijling
- Operation Modes of SRS Specified Using Advanced FTA, by Yasuo Tanabe, Yoshinobu Sato, Koichi Suyama and Kunio Tsuboi
- IEEE Recommended Practice for Conducting Human Reliability Analysis, by Bruce P. Hallbert, James P. Bongarra, Julius J. Persensky, Tony Spurgin and William G. Hanneman

Coffee Break 10:45 am – 11:15 am

Session 21 Closing Session 11:15 am – 12:15 pm

11:15 am – 12:15 pm Chair: A. Camp

San Geronimo Ballroom B

- Summary of PSAM 6, Prof. G. Apostolakis, IAPSAM Secretary, MIT
- Highlights of PSAM 7,Ms. C. Spitzer, Incoming IAPSAM President, General Chair PSAM 7
- Closing Remarks, Dr. A. Camp, Technical Program Chair, PSAM 6

Pina Colada & Fruit Punch Social 12:30 pm – 1:30 pm Peacock Alley



Duties of Session Chairs

- Check in at the registration desk and indicate that you are a session chair.
- Arrive at the session at least 10 minutes prior to start.
- Each session lasts an hour and a half, including the time for introductions, questions, and discussions at the end.
- Help will be provided to operate the audio-visual equipment. Overhead projectors will be provided. Any other equipment will be provided by the speakers, and must set up prior to the start of the session.
- Obtain information from each speaker to be used in his or her introduction. The speakers will be notified that they need to bring brief bios. Discuss with them the time they will have available, 20 minutes each for sessions with 4 papers, and 25 minutes each for sessions with 3 papers. This includes introduction time and time for one or two questions after each paper.
- At the start of the session, welcome everyone, introduce yourself and announce the name and purpose of the session.
- Introduce each speaker.
- If any speaker is not present, go on to the next speaker. Do not leave "dead time" in the middle of a session.
- Signal the speaker when there are 5 minutes left.
- With the remaining time in the session, initiate the dialog. Prepare a few questions, in case they do not arise spontaneously.
- Thank the speakers and participants.



Instructions for Speakers

Prior to the Session:

- Please contact the session organizers as soon as possible if you will not be able to present your paper as planned.
- Check the final program to verify the time and location of your session.
- Please arrive at the room 10 minutes before the beginning of the session.
- Bring a brief bio to give to the session chair. He or she will use that bio to introduce you. Typically, this bio will include your name, education, organization, position, and brief comments on your professional experience.
- If you need any audiovisual equipment other than an overhead projector, you will need to supply it and set it up prior to the start of the session.

Presenting Your Paper:

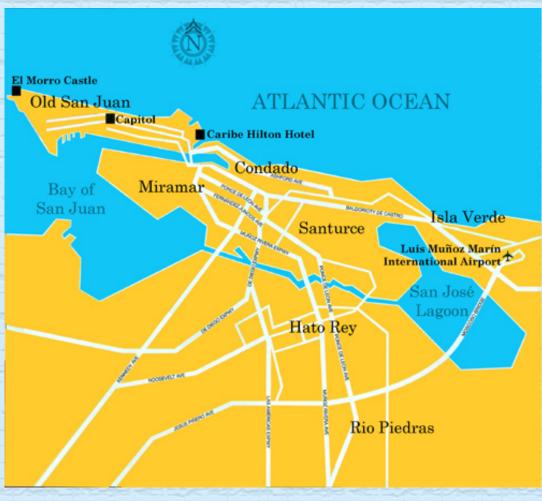
- You should plan to use overhead transparencies to present your paper. If you wish to use any other media, such as a laptop computer and projector, you will need to arrange to provide the equipment and set it up in advance. Any time spent attending to equipment during your presentation will count as part of your presentation time. Please contact the organizers if you have any questions.
- Sessions with 4 papers will allow 20 minutes per presentation. This includes the introduction time and one or two questions at the end. Sessions with 3 papers will allow 25 minutes per presentation.
- You may turn your own transparencies or have someone turn them for you. Discuss your preferences with the session chair prior to the session.
- Microphones and pointers will be provided.

General Discussion:

• Please be prepared to participate actively in the general discussion at the end of your session. Please help the session chair stimulate the discussion, if needed.



Map of San Juan



Getting Around





Getting Around

Taxis

Like any major city in the world, traffic in San Juan can be very congested and finding where to park can be a real challenge. Therefore, if your plans are to stay within the San Juan Metropolitan Area, the least expensive and most hassle-free means of transportation is the use of "Taxis Turísticos" or "tourism taxis."

Taxis Turísticos are independently owned and operated taxis that have been licensed by the Puerto Rico Tourism Company. They are white with a yellow emblem of the guardhouse at El Morro Fortress on each front door.

Within the San Juan Metropolitan Area, these taxis are only allowed to charge a maximum fixed fee to take you from one location to another. The taxi drivers are required to tell you in advance prior to boarding the taxi the fee they will charge to take you where you want to go.

Under normal traffic conditions the taxi ride from San Juan's Luis Muñoz Marín International Airport to the Caribe Hilton Hotel should take about 15 to 20 minutes. During rush hour, the ride could be significantly longer. Prior to leaving the baggage claim area in the airport, you will find a Tourism Company desk. You can inquire at that desk on the cost for the taxi ride to the Caribe Hilton Hotel using a Taxi Turístico. The taxis are available immediately outside the baggage claim area.

There are, of course, other taxis in San Juan available. In order to compete with the Taxis Turísticos, many of these other taxis will offer you a fixed fee to take you where you wish to go. However, this is not always the case.

The typical fixed rate for the taxi ride from the Luis Muñoz Marín International Airport to the Caribe Hilton Hotel is approximately US\$12.

Rental Cars

If you plan to explore on your own the many great things Puerto Rico has to offer outside the San Juan Metropolitan Area, renting a car may be advisable.

All the major US car rental companies (Hertz, National, Avis, Budget, etc.) have facilities at the San Juan International Airport. In addition, you'll find many independent and small car rental companies throughout the city -- especially in the Condado and Isla Verde areas.

Car rental requirements and driving laws in Puerto Rico are identical to those in the mainland USA.

Please make sure to make your car rental reservations well in advance.

For information about renting a car from Hertz, the official auto rental company of PSAM6, click here.



Optional Sightseeing Tours

Your PSAM 6 Organizing Committee has researched and set up what are most likely the best optional sightseeing activities at the most attractive rates for your enjoyment during your stay in Puerto Rico. We have selected Travel Services, Inc., the most experienced and professional destination manager in Puerto Rico, to offer these optional activities for participants of PSAM 6, their families and/or guests.

You may make register for these activities by faxing or mailing the accompanying order blank to Travel Services, Inc. directly along with credit card information or a check in US Dollars. (**To pay with a credit card you must also provide a photo copy of both sides of the card**). As availability is on a first-come, first-serve basis, it is most important that you sign up for these activities as early as possible in order to assure availability of the desired tours on the desired dates.

Please note that, in order to offer the tours at a reasonable cost, a minimum number of participants are required per tour. Also, some tours have a maximum number of participants to ensure that each participant receives personal attention from tour operators and guides. Cost of a tour, once booked, is fully refundable if written cancellation notice is received by Travel Services, Inc. at least 24 hours prior to operation of the tour.

Following is a schedule of available tours, a description of each, and the price of the tour per person.

Tour Schedule*

Monday, June 24

9:00 – 11:30 AM	City Tour of New and Old San Juan
9:00 – 11:30 AM	Visit to Bacardi Rum Distillery

1:00 – 5:30 PM Visit to El Yunque Rainforest with Low Impact Hike

Tuesday, June 25

8:00 AM – 12:00 Noon Visit to El Yunque Rainforest with Low Impact Hike

9:00 – 11:30 AM City Tour of New and Old San Juan

9:00 AM – 1:00 PM Horseback Riding in Foothills of Rainforest

Wedneday, June 26

9:00 – 11:30 AM Visit to Bacardi Rum Distillery 9:00 AM – 12:00 Noon Visit to the Botanical Gardens

9:00 AM – 1:00 PM Horseback Riding in Foothills of Rainforest

Thursday, June 27

8:30 AM – 4:45 PM All Day Snorkel Catamaran Cruise to a Deserted Island 8:30 AM – 5:30 PM Visit to the Camuy Caverns and Ionospheric Observatory

9:00 AM – 12:00 Noon Visit to the Botanical Gardens

Friday, June 28

8:30 AM – 6:00 PM All Day South Coast visit to Ponce

1:30 - 6:00 PM

Visit to El Yunque Rainforest with Low Impact Hike

*Tours the weekends before and after the conference can be booked through the Tour Desk at the hotel. Please note that tours on these dates may be at higher prices than the special PSAM 6 rates.

Tours Operate with a Minimum of 18 Persons per Tour (except for Catamaran trip for which there is no minimum)

Pictures

Tour Descriptions

City Tour of New and Old San Juan

Price per person: \$27.00

We will first head eastward towards Boca de Cangrejos (Mouth of the Crab), then work our way back through the areas of Isla Verde, Condado, past Fort San Gerónimo and on into Old San Juan, one of the most beautiful old cities in the New World, and filming location for big-budget movies starring such luminaries as Steven Seagal, Kurt Russell and Sylvester Stallone. Your first stop is for a short visit to Fort San Cristobal, a mainstay of the San Juan fortification system, from which the Spanish successfully defended their city from British and Dutch attacks as well as frequent assaults from various and sundry pirates. Be sure to watch their historical video on the area. Drive along the coast for a panoramic view of El Morro Fort, La Fortaleza, The Institute of Puerto Rican Culture, San Juan Cathedral, San Jose Church and Capilla de Cristo.

You'll see the beautiful 17th century Spanish ironwork on the restored homes and note the blue-black glazed cobblestones that were brought to San Juan as ballast for the Spanish galleons, and were used to line the narrow streets of the Old City. In addition, armed with our "Shopper's Map" of Old San Juan, you will have time to explore some of the many interesting shops, boutiques and art galleries that have made this historic area their home. You may elect to remain in San Juan and return on your own, or return with the tour vehicle – it's your option.

Bacardi Rum Distillery Tour

Price per person: \$30.00

Your tour carries you out to the south side of San Juan Harbor, where you will enter the beautifully manicured grounds of the Bacardí Rum Distillery, the world's largest distiller of natural spirits. Upon arrival you will board an open-air tram with a bilingual guide who will take you to the distillery building that houses 20 giant 50,000-gallon tanks. While on the fifth floor, commonly referred to as the "Hall of Rums," one can view the six story tall distillation towers. In addition to viewing the fermentation and bottling processes, visitors are treated to lavish new exhibits that chronicle Bacardí's history, products and innovations in technology. You will then proceed to the open-air pavilion, where you will be treated to complimentary rum drinks. Adjacent to the pavilion is the Rum N' Things gift shop in which one can purchase Bacardí Rum as well as many other Bacardí products.

El Yunque Rainforest with Hike

Pictures

Price per person: \$40.00

El Yunque Rainforest consists of a range of mountains, located about 45 minutes from San Juan. This area receives billions of gallons of rainfall each year and has over 240 varieties of plants and trees. El Yunque boasts a jungle-like atmosphere consisting of giant hardwoods, tropical ferns over 40 feet tall, bamboo groves and miniature orchids. Stops are made at La Coca Falls (a great photo opportunity), and at the natural rock swimming pool, plus a separate step-aboard hiking tour guide will accompany you on a low-impact walk/hike on one of El Yunque's beautiful trails for an up-close and in-depth rainforest experience. Be sure to wear closed toe shoes, as you the trail may be damp. We'll supply the mineral water for the hike. And as a bonus, you will make a photo stop at beautiful Luquillo Beach, located only a short distance from the Rainforest.

Horseback Riding in the Foothills of the Rainforest

Pictures

Price per person: \$77.00

Bilingual guides accompany every group on the trail ride through the lush tropical foothills of the El Yunque Rainforest, along the banks of the Mameyes River, into the very heart of the legendary Puerto Rican countryside. You'll love the gentle, but spirited, Paso Fino horses featured at Hacienda Carabali, stables for some of San Juan's wealthiest families. Some have described the Paso Fino, which is not a large breed of horse, as being somewhat like a Tennessee Walker, in that it provides one of the smoothest rides imaginable. Beginner, intermediate and advanced riders are welcome. Long pants are recommended. Wear a bathing suit underneath your clothing if you would like to take a dip in the river. After your refreshing plunge, we suggest that you sun dry, or bring a towel along. Incidentally, there are fresh water shrimp in the river pool where one goes swimming, and it is quite a treat when the little miniature baby shrimp nibble at your feet. Totally harmless, but a most unique sensation. Basic riding instruction is conducted prior to ride.

Botanical Garden Tour Price per person: \$30.00

Formerly the Agricultural Experimental Station of the University of Puerto Rico, and still operated by the University, these lovely gardens are home to over 70 different species of palms. The garden lagoon holds fresh water turtles and tilapias, and West Indian common gallinule with its black wings and red beak, along with martinets and roal herons can be seen in the lagoon area from time to time, coming there to feed on the small fish. During the two hour visit to this facility you will enjoy viewing a wide variety of additional plants and trees including bamboo, breadfruit, hibiscus, violets, eucalyptus, the Jamaican akee, cinnamon, papyrus, ficus, malay apple, mago, and elephant ear. You will see the Sculpture Garden, and the Monet Garden (a replica of Claude Monet's garden in France). Bring your camera and wear comfortable walking shoes and prepare yourself for a visual feast.

All Day Catamaran Snorkel Cruise to a Deserted Island

Pictures

You will leave your hotel in the morning and head out towards one of Puerto Rico's beautiful private marinas where you will board a catamaran and set sail for a tranquil uninhabited isle for a day of relaxation and fun. The Rum Punch and Piña Colada Bar open up as soon as you set sail. The sail is a leisurely one that takes approximately 45 minutes. While relaxing aboard, you will have some spectacular views of Palomino and Palominito islands, as well as other small islands, and the Cabezas de San Juan lighthouse. Once the boat has landed on the beach, you can beach comb, collect shells, swim and snorkel in the warm waters of these offshore islands. You will also have the opportunity to explore the deeper waters, approximately 10-15 feet in depth. Here you can view lava formations which host a variety of soft corals and many species of marine life, some of which can only be found right here in Puerto Rico.

While you are exploring along the beach or the underwater world, your captain and mate are preparing your deluxe sandwich buffet onboard. After your feast, there's time for additional swimming, snorkeling, or just lazing in the sun before your easy down-wind sail back to the mainland.

Arrangements include drinks, free snorkeling equipment and round trip transportation from your hotel. Please be sure to take along a towel, a good sunscreen and a T-shirt to protect yourself from the tropical sun (in and out of the water).

Visit to the Camuy Caverns and the Ionospheric Observatory

Pictures

The extensive subterranean cave systems of Rio Camuy Cave Park are reported to be the largest in the Western Hemisphere. Today a drive of approximately 75 minutes from the Caribe HIlton takes you past lush landscape, pineapple farms, jagged eroded limestone cliffs and haystack hills as you near the area of this massive subterranean wonderland.

Your visit to the park begins with a short video as you wait to board the open air trolleys, which twist and turn their way through the road carved out of verdant foliage before reaching the moss lined entrance to the cave. After this ten-minute trolley ride, multilingual cave guides will escort you on foot through the enormous cave, 200 feet high and a half-mile long. A large opening at one end of the cave allows light to filter through part of the cave, creating beautiful photographic opportunities. From this opening you will see one of the many sinkholes carved out by the Camuy River, the world's third largest underground river. As you walk through the interior of the cave, passing stalagmites and stalactites, you will experience the eerie illusion of timeless steps in the earth's creation. The actual tour of the caves takes approximately one hour. You will have time for a lunch stop at a Puerto Rican family style restaurant (luncheon is on your own, but quite inexpensive) before continuing with the afternoon portion of your tour.

Following lunch you will head inland, gradually increasing altitude, until you arrive at the Arecibo Observatory, site of the world's largest electronic radiotelescope – the huge dish of which is 1000 feet in diameter, and is suspended above an underlying karst sinkhole.

The personnel at the observatory have arranged a very interesting display in the main building overlooking the dish and antennae, one which truly gives you an appreciation for the mission of this unique installation (which is poised, listening for signs of extra-terrestrial life 24 hours a day). In addition, you will have an opportunity to step out onto the balcony and personally gaze out at this incredible instrument.

A couple of recent hit movies have been filmed at this location, Contact, starring Jodie Foster, and the other was Goldeneye, a recent James Bond movie.

All Day Visit to Ponce and Puerto Rico's South Coast

Price per person: \$75.00

Price per person: \$75.00

Price per person: \$79.00

We'll start bright and early, heading inland on the trans-island expressway, though the lush green hills of the interior and across the Cordillera of mountains to the drier Caribbean side of the island to Ponce. Your tour will begin with a panoramic view of the Caribbean coast from El Vigia Hill, towering several hundred feet over the city of Ponce at the point where the

Tours

central Cordillera starts to rise – it was from here that early residents scanned the horizon for pirates. Immediately below this lookout point is Serrallés Castle, the baronial estate of Puerto Rico's most powerful rum producing family, who produce Don Q Rum. You will actually tour this "castle" which is a magnificent example of Spanish Revival architecture popular in the 1920's and includes furnishings that date back to medieval Spain mixed with what were then the "modern" appliances of the early 20th century. You finish this segment of the tour actually feeling that you have met the members of the Serrallés dynasty. Next you will head to the city's center that has been lovingly restored to its original turn of the century splendor and features a spacious tree-lined plaza, which encompasses the Cathedral and Fanciful red and black Parque de Bombas (firehouse), which was imported from a world's fair. Horse drawn carriages are usually found at the square as well. Time will then be allowed for lunch at one of Ponce's fine hotels. Following lunch you will stop at the Ponce Art Museum, known for its classical Greek architecture, famous Pre-Raphaelite collection and exhibits of Latin American painters. From the museum you head back to San Juan and the 21st Century.

The reservation form



Optional Sightseeing Tours

City Tour of New and Old San Juan









Optional Sightseeing Tours

Bacardi Rum Distillery Tour







Optional Sightseeing Tours

El Yunque Rainforest with Hike











Optional Sightseeing Tours

Horseback Riding in the Foothills of the Rainforest











Optional Sightseeing Tours

All Day Catamaran Snorkel Cruise to a Deserted Island

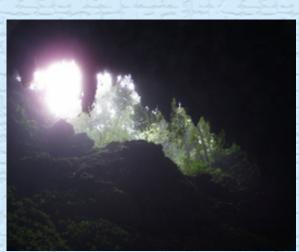


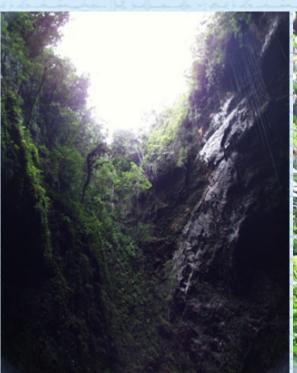




Optional Sightseeing Tours

Visit to the Camuy Caverns and the Ionospheric Observatory









Note: No confirmation will be mailed, you will receive your tour vouchers when you register upon arrival. Please ensure that any changes or cancellations are made at least 24 hours in advance in order to guarantee refund.

Please mail to: Travel Services, Inc., Attn: PSAM, Box 16187, San Juan, PR 00908-6187

or

Fax to Travel Services, Inc., 787-725-6245

Registration should be accompanied by either check in US Dollars or credit card information with signature of cardholder.

Please register me for the following optional activities:

lour	Date	Qty	Price	i otai
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Name of Cardholder:	· · · · · · · · · · · · · · · · · · ·			
Signature of Cardholder:				

Rental Cars



The Official Car Rental COMPANY for PSAM6

Your PSAM 6 Organizing Committee has selected HERTZ Car Rental Company as the Conference's official car rental company. Hertz has agreed to provide PSAM 6 participants with special rental rates at significant savings over rates offered by other car rental companies in Puerto Rico. The special rates are:

		Daily Daily	Weekly Weekly
	Car Class	Per Day	5-7 Days
A	Economy 2DR	\$29.99	\$169.99
В	Compact 4DR	\$32.99	\$179.99
C	Midsize 4DR	\$35.99	\$204.99
D	Standard 2DR	\$41.99	\$224.99
F	Fullsize 4DR	\$46.99	\$254.99
I	Luxury	\$54.99	\$299.99
R	Minivan	\$60.99	\$345.99
L	Explorer	\$58.99	\$335.99

These special conference rates are guaranteed from one week prior through one week after the PSAM Conference dates and are subject to car availability. Advance reservations are recommended; blackout dates may apply. Government surcharges, taxes, tax reimbursement, airport related fees, vehicle licensing fees and optional items, such as refueling or additional driver fees, are extra. Minimum rental age is 25 (exceptions apply). Standard rental conditions and qualifications apply. In the continental U.S., weekend rentals are available for pick-up between noon Thursday and noon Sunday and must be returned no later than Monday at 11:59 PM. Weekend rentals have a minimum two-day keep and Thursday pick-up requires a minimum three-day keep. Weekly rentals are from five to seven days. Extra day rate for Weekly rentals will be charged at 1/4 of the Weekly Rate.

HERTZ has offices conveniently located at the Luis Muñoz Marín International Airport in San Juan as well as at the Caribe Hilton Hotel.

To make car rental reservations please go on-line to <u>www.hertz.com</u>, in the USA call 800-654-3001; in Canada call 800-263-0600, in other international locations call 1-405-755-4434.

When making your reservations either on-line or by telephone you must reference the PSAM Conference and provide the PSAM Conference Code CV#022J0715.



Key Dates

Call for papers
Paper Abstracts due
Authors Notification
Full papers due date
Conference

November 2000 October 31, 2001 December 1, 2001 February 1, 2002 June 2002





Background Of IAPSAM

The International Association of Probabilistic Safety Assessment and Management (IAPSAM) was established to organize and host conferences as fora for engineers and scientists that practice the explicit use of probabilistic methods in the design and safe operations of engineered systems and facilities.

To date, IAPSAM has organized and hosted four extremely successful conferences (1991 in Beverly Hills, CA; 1994 in San Diego, CA; 1996 in Crete, Greece; 1998 in New York, NY; and 2000 in Osaka, Japan. PSAM 6 will be held in 2002 in San Juan, Puerto Rico and PSAM 7 in 2004 in Berlin, Germany.

The conferences, better known as "PSAM Conferences" have attracted an average of 500 participants from government, academia and the private sector. Presentations cover a wide range of disciplines, such as:

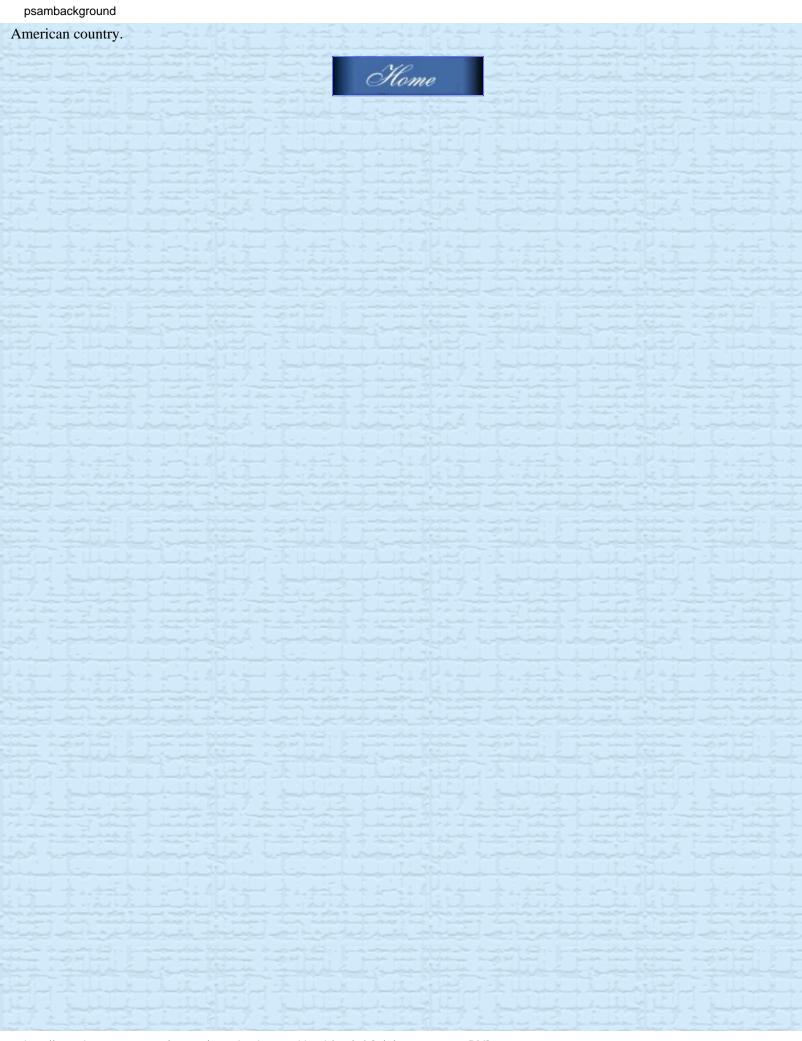
- Aviation
- Chemical Processes
- Environmental Systems
- Information and Communication
- Insurance
- Land Transportation and Highways
- Legal and Regulatory
- Manufacturing
- Medical and Health
- Nuclear Systems
- Security and Protection
- Space Systems
- Structures

The outstanding reputation of the PSAM Conferences has attracted many international organizations as co-sponsors. Some of these include:

- American Institute of Chemical Engineers
- American Nuclear Society
- American Society of Mechanical Engineers
- American Society of Civil Engineers
- Atomic Energy Society of Japan
- European Safety and Reliability Society
- Federal Aviation Administration
- Institute of Electrical and Electronic Engineers
- National Aeronautic and Space Administration
- Organization for Economic Cooperation and Development
- U.K. Safety and Reliability Society
- U.S. Coast Guard
- U.S. Nuclear Regulatory Commission

In past PSAM conferences the majority of participants have come from North America, Europe and Asia. In an effort to attract participants from Latin America, the IAPSAM Board of Directors selected San Juan, Puerto Rico as the site for PSAM 6 to be held in June 2002 at the Caribe Hilton Hotel.

As a U.S. Commonwealth, Puerto Rico offers all the amenities of any state in the U.S. with the rich cultural flavor of a Latin



Brief History of Puerto Rico



Puerto Rico is the easternmost island of the Greater Antilles. It is located in the Eastern Caribbean approximately 1000 miles southeast of Miami, FL and 1500 miles from New York City. It is bounded on the north by the Atlantic Ocean and by the Caribbean Sea in the south.

Discovered by Christopher Columbus on November 19, 1493 during his second voyage to the New World, Puerto Rico was originally populated by Taino Indians who thrived on their fishing and agricultural skills. The island's original name was Boriquén, and even today Puerto Rico is also called "Borinquen" and Puerto Ricans "Borincanos."

The first Spaniards to settle in the island called it "San Juan Bautista" in honor of St. John the Baptist. The capital city was named "Puerto Rico," meaning rich port. When Puerto Rico became Spain's most important military outpost in the Caribbean, Juan Ponce de León—the island's first Spanish governor—switched the two names: the island became Puerto Rico and the capital city San Juan.

In the 1520s, in an effort to protect the city of San Juan from other European invaders, Spain began the construction of the massive fortification that protected the city and its residents. Still today, that part of the city, known as "Old San Juan," is a walled enclave and the original forts of El Morro Castle, San Cristóbal and San Gerónimo still guard the city.

In 1809, Puerto Rico was declared an overseas province of Spain with rights to send representatives to the Spanish court. In the 19th century Puerto Rico was granted its first constitution and the islanders were allowed to undertake free commerce with the United States and other European colonies in the New World. The latter part of that century was characterized by political unrest in the island; in 1868 Puerto Ricans took arms against Spain.

Puerto Rico became a territory of the United States in 1898 following the Spanish-American War. According to legend, just before the U.S took over the government of Puerto Rico in 1898, the last Spanish governor of the island struck the grandfather clock in La Fortaleza (then, and still today, the Governor's Mansion), thus stopping the clock at the exact time Spain lost power over Puerto Rico.

In 1917, Puerto Ricans, through an act of the U.S. Congress, became U.S. citizens. Until 1952, the U.S. President appointed the Governor of Puerto Rico. The last appointed governor was also the first Puerto Rican governor; his name was Jesús T. Piñero. In 1952 a new constitution for Puerto Rico establishing it as a semi-autonomous U.S. territory was enacted. Since then, Puerto Ricans

have had the right to elect its own government.

The first elected governor of Puerto Rico was Luis Muñoz Marín. Many facilities around the island, including San Juan's International Airport, bear his name. The current government of Puerto Rico is identical to that of any U.S. state; it consists of an executive branch headed by the governor, a bi-cameral (Senate and House of Representatives) legislative branch, and a judicial branch.

The 20th century has meant incredible economic growth for Puerto Rico. The island's economy transitioned from one in which agriculture was its cornerstone to one in which industry and tourism dominate. Puerto Rico is, without a doubt, the business center of the Caribbean. Today, Puerto Ricans enjoy the highest standard of living and purchasing power of any country or territory in the Caribbean and Latin America. For many major U.S. retail chains, the store with the highest sales volume in the entire chain is located in Puerto Rico.

As a U.S. territory, the economic, legal, transportation and communications systems in Puerto Rico are identical to those in any other state in the United States. The currency in Puerto Rico is the U.S. dollar, and San Juan is serviced by non-stop flights from most major cities in the continental U.S., Europe, the Caribbean and Latin America.



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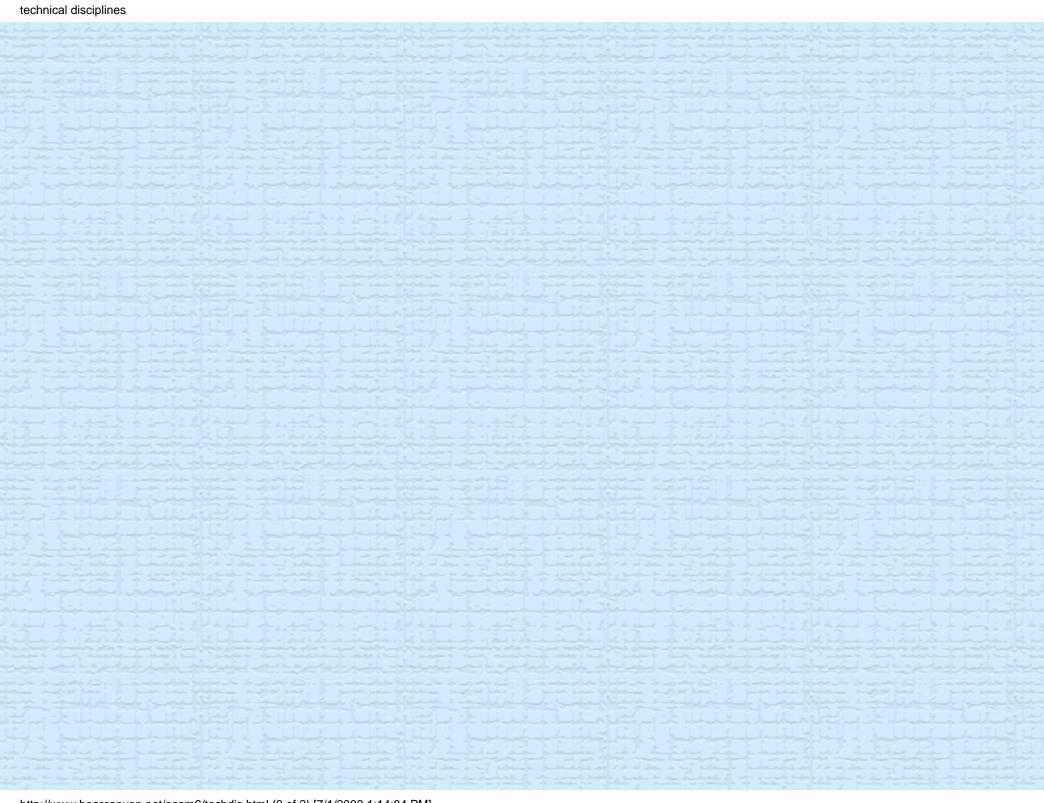
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Paper Format

For a paper to be accepted for publication, the paper must adhere to the style rules laid out in the the Style Guide.

Please read the Style Guide carefully to avoid any problems in publishing your paper in the PSAM 6 proceedings.

Get a copy of the Style Guide here.



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Social Events

Opening Reception - Sunday, June 23 at Fort San Jeronimo adjacent to Caribe Hilton Hotel Cocktails

Hors d'oeuvres

Traditional Puerto Rican Music

Puerto Rican Night - Wednesday June 26 at Ballajá Building in Old San Juan

Cocktails

Dinner

Folkloric Show

Dancing to Latin Music

Sight seeing tours before, during and after conference

Hospitality desk during the conference





Sponsorship and Exhibitor Levels

Platinum Event Sponsor and Exhibitor: \$10,000

Sponsors receive:

- Exhibit booth consisting of 8 1/2 foot skirted table, two chairs, and a power strip
- 1 full page black and white ad in the conference program
- 4 full registration packages
- 4 tickets to all the gala events (luncheon, reception, and banquet)
- Recognition as a sponsor in conference program and proceedings
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Go to the Registration Form

Gold Sponsor and Exhibitor: \$5,000

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- 3 tickets to all the gala events (luncheon, reception, and banquet)
- Recognition as a sponsor in conference program and proceedings
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- 1 full registration packages
- 1 ticket to all the gala events (luncheon, reception, and banquet)
- Recognition as a sponsor in conference program and proceedings
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Bronze Sponsor and Exhibitor: \$2,000

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PSAM 6 Sponsorship/Exhibitor

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I have enclosed my bank receipt.
NOTES: For international wires add: SWIFT# MELN US 3P. Paying bank's commision: ordering customer's account
O Mastercard O VISA O American Express Card No Expiration Date
Name of Cardholder
Date: Signature:

This form must be received with payment in full prior to April 30, 2002 to be eligible for the reduced rate. Registrations received after this date will be considered "on-site". Confirmations will be sent.

Any changes, cancellations, and/or refund requests must be received in writing no later than May 15, 2002. No telephone registrations or cancellation will be accepted. Substitutions will be accepted at any time.



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Arrangements for Other Meetings

Many organizations hold meetings of their membership during the PSAM Conferences in order to take advantage that many of their members attend the Conferences.

Those meetings are not part of the PSAM Conferences. Therefore, those organizations wanting to hold meetings during the Conferences must make the necessary arrangements directly with the host hotel and not through the Organizing Committee.

For the PSAM 6 Conference the point of contact at the Caribe Hilton Hotel in San Juan is Ms. Wanda Torres. She can be best reached via e-mail at wandatorres@caribehilton.com.





Climate & Attire

Puerto Rico has tropical climate with annual average temperatures of 82° F or 28° C with constant mild, easterly winds. In San Juan the U.S. Weather Service has never recorded a temperature below 68° F (20° C) or above 97° F (36° C), day or night, 365 days a year.

For those traveling from dry climates, relative humidity in Puerto Rico is high. Also, sporadic rain showers are common.

Light clothing is highly recommended.

During Conference activities business casual attire is recommended.

