

1st Joint Emergency Preparedness and Response & Robotic and Remote Systems Topical Meeting

*“Sharing Solutions for Emergencies
and Hazardous Environments”*

February 11 – 15, 2006 • Marriott Downtown • Salt Lake City, Utah



International Joint Topical: 9th Emergency Preparedness and Response /
11th Robotics and Remote Systems for Hazardous Environments



Sponsored by
Idaho Section of the American Nuclear Society

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Alan Rolfe
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U.S. NRC

Financial Contributors / Technical CO - Sponsoring Organizations

Through their generous financial contributions and technical sponsorships the organizations listed below have made an outstanding contribution to the success of this 1st ANS Joint International Topical Meeting combining the Environmental Sciences & the Robotics and Remote Systems for Hazardous Environments Divisions.

Financial Co- Sponsor

The Defense Advanced Research Projects Agency (DARPA)

Financial Contributor

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EPRI

PaR Systems

American Nuclear Society

Robotics and Remote Systems Division

American Nuclear Society

Environmental Sciences Division

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Sociedad Nuclear Mexicana (SNM)

Institute of Electrical and Electronics Engineers,
Robotics and Automation Society (IEEE-RAS)

1st Joint Emergency Preparedness and Response & Robotic and Remote Systems Topical Meeting

*February 11 – 15, 2006
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Salt Lake City, Utah*

Contents

Meeting Officials	2
Contributing / Sponsoring Organizations.....	2
Conference Information	5
Professional Development Workshops.....	9
Panel Sessions.....	11
Meeting Highlights	13
Technical Sessions	135
Exhibit Information.....	21
Meeting Registration Form	23
Hotel Registration Form.....	25

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Donald Dudenhoeffer	Marsha Keister <i>INL-BEA</i>		

Conference Information

Local Attractions and Activities

Known as the “Crossroads of the West”, Salt Lake City is nestled in a valley at the foot of two mountain ranges – the Wasatch to the east and the Oquirrh to the west. When snow flies, it graces the slopes at 10 world class ski resorts including Alta, Brighton, Snowbird and Solitude. While in Salt Lake City, you may enjoy numerous activities and day tours. Salt Lake is home to one of our nation’s finest regional symphony orchestras, world-class opera, a myriad of art galleries, and offers first class accommodations and fine dining.

Conference Registration

Registration is required for all attendees and presenters. Badges are required for admission to all events. The Full Conference Registration fee includes technical sessions, a copy of the proceedings, and one ticket to the Opening Reception and Conference Luncheon.

Conference Daily Registration includes technical sessions for the day registered and a copy of the proceedings. Conference daily registration does not include tickets to any events.

Student Registration includes technical sessions and a copy of the proceedings. A full-time student ID is required. Student registration does not include tickets to any events.

Emeritus Registration includes technical sessions and a copy of the proceedings. Emeritus registration does not include tickets to any events.

Spouse/Guest Registration includes admittance to the Spouse/Guest Hospitality Room, and one ticket to the Opening Reception, Monday Conference Luncheon, and coffee breaks Monday through Wednesday.

NOTE: Additional tickets can be purchased as the ANS Registration Desk for the Opening Reception and Conference Luncheon.

Conference Special Events

Please note:

You must be registered for the meeting to attend evening events.

Opening Reception, Sponsored by **PaR Systems** 
Sunday, February 12, 2006
5:00 PM – 7:00 PM
Location: Exhibit Hall

One ticket is included in the full meeting registration fee and in the spouse/guest registration fee. Refreshments and hors d'ouvres will be served. You can purchase additional tickets for spouse/guests at the ANS registration desk. Each additional ticket price is \$30.

Conference Luncheon - Sponsored by **Nuclear Energy Institute**  and **EPRI**  ELECTRIC POWER RESEARCH INSTITUTE
Wednesday, February 15, 2006
12:00 PM – 1:30 PM
Location: Grand Ballroom

Information on luncheon speaker forthcoming.

Additional ticket price is \$30

Judged Robotic Showcase

The American Nuclear Society (ANS) invites you to participate in the Judged Robot Showcase to be held at the meeting. The Showcase will highlight state-of-the-art robotics capabilities including novel sensors, platforms, manipulators, communications systems and control systems. Researchers from all areas of robotics are encouraged to exhibit their robotic systems and every effort will be made to accommodate a wide variety of live demonstrations. The goal of the Showcase is to provide researchers with an opportunity to show their systems in action. Register to participate in either the “**Student**” or “**Open**” category. Visit the meeting webpage for more information.

Technical Tour

You must pre-register for the technical tour; see technical tours registration form on <http://www.2006sharingsolutions.com>.

University of Utah will offer a tour of their nuclear reactor facility.

More information on the tour is forthcoming.

Spouse/Guest Activities

There are numerous activities and professional tours available, many within walking distance of the Marriott Downtown. Salt Lake's mass transit system, Utah Transit Authority, provides public transportation to many of the sites and offers a Free Fare Zone in the downtown area. Examples are:

Downtown Walking Tour

Salt Lake has a compact downtown area with wide, easy-to-manuever streets. Within a few blocks of Temple Square—the city's best known attraction—there are several major Mormon historical sites and pioneer era buildings, as well as urban parks, shopping malls, cultural venues, and even a planetarium.

Skiing and Snowboarding in Park City

If you've heard amazing ski stories about Utah's incredible snow... believe them. Better yet, come try it for yourself. Ski Utah. It truly is the "Greatest Snow On Earth!" It should be no

surprise that the headquarters for the U.S. Ski and Snowboard associations are in Utah, and that Utah's mountainsides welcomed the world's best athletes during the 2002 Olympic Winter Games. This winter, come experience these areas for yourself. Ski the venues used for the Olympics and discover the spots locals go to get away from the crowds and enjoy great skiing, snowboarding, snowmobiling and other adventures.



Hill Aerospace Museum

Hill Aerospace Museum is located on approximately 30 acres on the northwest corner of Hill Air Force Base, Utah, about five miles south of Ogden. The museum was founded in

1981 as a part of the United States Air Force Heritage Program and first opened in 1986. It moved to its current

facility in 1991. They have hosted our 1 millionth visitor in the spring of 1996 and annually have around 180,000 visitors, coming from every state and from many foreign countries.



Currently the Museum exhibits over 80 military aircraft, missiles, and aerospace vehicles on the grounds and

inside the Major General Rex A. Hadley Gallery and the Lindquist-Stewart Fighter Gallery. The museum collection also includes a wide variety of ordnance, an assortment of aerospace ground equipment, military vehicles, uniforms, and thousands of other historical artifacts.

Daily Guided Tours of Olympic Competition Sites

Go to the top of the world's highest altitude ski jumps and see the fastest bobsled, luge and skeleton track where Olympic history was made. Watch athletes in winter training as they ski



jump off the K90 and K120 Nordic hills and launch themselves into the air off the freestyle aerial kickers. Visit the interactive Alf Engen Ski Museum, which chronicles Utah's ski history, and the new 2002 Olympic Winter Games Museum.

NEW The Quicksilver Alpine Slide –

Take a ride on our brand new Quicksilver Alpine Slide. Use a toboggan-like sled to zoom down a state-of-the-art stainless steel track. See what it feels like to be a luge, skeleton or bobsleigh athlete as you race through the trees on this new sports slide for the public.

Ski Snowbird

There is no place like "The Bird"! Averaging over 500 inches of light, dry Utah powder annually, Snowbird is a true mecca for ski enthusiasts and families alike. This resort offers some of the best powder skiing and some of the most challenging terrain in the world, yet beginners and intermediates will enjoy the area as well. Snowbird is a cozy, slopeside, pedestrian village, harmonizing naturally with the rugged beauty of Little Cottonwood Canyon. Accommodations, restaurants, shops, skiing, and all other activities are within easy walking distance. Snowbird is also one of the world's easiest resorts to get to, with Salt Lake City International Airport only 29 miles away.

Registration Hours

The Conference Registration Desk and Message Center will be located in the Marriott Downtown in the Solitude Conference room, just across from the hotel lobby. You may register, purchase tickets for events, or pick up your registration packet during the following hours:

Saturday, February 11, 2006
1:00 pm – 5:00 pm

Sunday, February 12, 2006
1:00 pm – 5:00 pm

Monday, February 13, 2006
8:00 am – 5:00 pm

Tuesday, February 14, 2006
8:00 am – 5:00 pm

Wednesday, February 15, 2006
8:00 am – 12:00 pm

Cancellations

Registrations canceled prior to January 11, 2006, will be refunded minus a \$75.00 processing fee. Cancellations received after January 11, 2006, will NOT be refunded. However, you may send a substitute.

Conference Proceedings

This year's conference proceedings will be on CD-ROM. Copies of the Conference Proceedings will be available on site. Each full conference registrant will receive a copy of the proceedings as part of the full registration fee. Additional copies may be purchased at the conference registration desk for \$80.00 (This special price is available at the conference only.) To purchase copies following the conference, you may contact the ANS Accounting Department at 708- 579-8210 (telephone), 708-579-8314 (fax), accounting@ans.org (email), or submit your request in writing to American Nuclear Society, P.O. Box 97781, Chicago, IL 60678-7781. Copies of the proceedings are available for \$140 after the conference. Payment information must accompany all orders.

Publication in Journals

There will be a selection process of 5-10 papers for publication in ANS journals which will be sponsored by DARPA. There will be not extra charge to authors if selected to be published in the ANS journals. In addition, we would like to announce that an additional 5-

10 papers on robotics in emergency response will be published in the Field Robotics Journal at no extra cost.

International Participants

Procedures for International Participants

Register for conference

Apply early for a United States Visa (include invitation letter in your Visa application)

A conference representative will contact you every four weeks via email to check on the status of your Visa application

NOTE: Beginning January 15, 2005, eligible Chinese nationals who wish to visit the U.S. temporarily for business (which generally includes meeting attendees) will be able to get visas that are valid for up to 12 months and for multiple entries. Previously, U.S. visas for Chinese were limited to terms of six months. The U.S. Embassy in Beijing and the Chinese Ministry of Foreign Affairs exchanged diplomatic notes on this agreement in December 2004, and the text of the agreement was posted on the U.S. Department of State's website on January 13, 2005. As a result, frequent Chinese travelers receiving longer validity visas will need to visit the U.S. Embassy or Consulates in China less often to renew visas.

Visa Information

A citizen of a foreign country, wishing to enter the U.S., generally must first obtain a visa, either a nonimmigrant visa for temporary stay, or an immigrant visa for permanent residence. The type of visa you must have is defined by immigration law, and relates to the purpose of your travel.

To learn more, read the step-by-step guide to the visa process at the United States Visas Homepage at the following url: www.unitedstatesvisas.gov.

Summaries for Late-Breaking Research/Issues

Late-breaking issues or research will be accepted for the proceedings if received in the form of Extended Summaries with the following requirements. See website on how to submit your paper. No full paper will be required. Summaries will only receive a cursory review for acceptance and will be included in the conference CD. The oral presentation during the proceedings will be added to sessions according to content and space available. Of particular interest we are already receiving

lessons learned from the recent Katrina and Rita hurricanes and other recent disasters.

The summaries should meet the following guidelines:

1. Title Maximum – 10 words.
2. Text 750 to 1,500 words.
3. Total of three Figures or Tables allowed.
4. Key words along with references not included in the word count.
5. Summaries due November 10, 2005

Contact the Student Activities Chair with questions:

Mary Lou Dunzik-Gougar, Ph.D.

Institute of Nuclear Science and Engineering
Idaho State University
Idaho National Laboratory
1776 Science Center Dr.
Suite 332
Idaho Falls, ID 83402
(208) 282-7809
mldg@isu.edu

Student Activities

Student paper awards

Students are encouraged to submit papers for presentation at the meeting. Abstracts that were submitted by the June deadline were reviewed along with the non-student papers and placed in technical sessions according to content. . However, in recognition of academic schedules students are also encouraged to use the "Late-Breaking Research/Issues" mechanism to submit summaries as described above. In either case, students are expected to present the papers during the meeting in order to be considered for an award. Professionals attending the meeting will serve as judges for the student paper presentations. Prizes will be awarded for first (\$500), second (\$250) and third (\$100) by the Robotics and Remote Systems Division of the American Nuclear Society.

Judged Robotic Showcase

The American Nuclear Society (ANS) invites you to participate in the Judged Robot Showcase to be held at the meeting.

Student financial help for meeting attendance

Funding is available to help with the cost associated with students attending the meeting to present papers and/or participate in the Judged Robotics Showcase. Students may apply for this funding at the meeting. Amount of funding per student will depend on the number of student participants and the distance traveled by the applicant.

Professional Development Workshops

Saturday, February 11, 2006

Detecting Radiation in our Radioactive World

Instructor: Mary Lou Dunzik-Gougar, Idaho State University
Time: 8:30 a.m. – 4:00 p.m.
Location: Room E

Description

The American Nuclear Society will be conducting a day-long workshop for teachers. The workshop is being offered in conjunction with this professional meeting, and as such will explore the uses of robotics in high radiation fields and other hazardous environments.

Sunday, February 12, 2006

RADTRAN Training Workshop

Instructor: Ruth Weiner, Sandia National Laboratory
Time: 9:00 a.m. – 3:00 p.m.
Location: Room A

Description

The RADTRAN computer code is used for risk and consequence analysis of radioactive material transportation. A variety of radioactive materials (RAM) is transported annually within this country and internationally. The shipments are carried out by overland modes (mainly truck and rail), marine vessels, and aircraft. Transportation workers and persons residing near or sharing transportation links with these shipments may be exposed to radiation from RAM packages during routine transport operations; exposures may also occur as a result of accidents. Risks and consequences associated with such exposures are the focus of the RADTRAN 5 code. (See <http://www.2006sharingsolutions.com> for more information).

Emergency Response: Hazardous Materials First Responder Awareness

Instructor: Mike Carpenter, Garner Environmental Services
Time: 9:00 a.m. – 3:00 p.m.
Location: Room B

Description

This course is designed for all personnel who respond to or have the potential to respond to a hazardous materials emergency. Awareness-level training is for personnel who are likely to witness or discover a hazardous materials release and will initiate a response sequence by notifying the proper authorities of the release. Topics include defining hazardous materials, recognizing and identifying the presence of hazardous materials in an emergency, potential outcomes when hazardous materials are involved, use of basic information resources and individual roles in an emergency situation.

Awareness level responders recognize the presence of hazardous materials, isolate the scene and call for appropriate assistance. They do not participate in actual cleanup activities. The course covers the topics addressed in OSHA 29 CFR 1910.120.

Chemical Dispersion and Consequence Assessment Methodology

Instructor: Carl Mazzola, Shaw Environmental
Time: 9:00 a.m. – 3:30 p.m.
Location: Room C

Description

This training course presents basic principles and subsequent applications associated with the assessment of consequences resulting from an accidental release of hazardous chemicals. The training begins with presentations to introduce the participants to the fundamental elements of Chemical Dispersion & Consequence Assessment (CD/CA). These are:

1. Source term characterization;
2. Atmospheric transport and dispersion analysis; and,
3. Toxic endpoints.

The course material on source term characterization covers various pressurized and non-pressurized gaseous and liquid phase release mechanisms and addresses the complex phenomenology that influences the variable rate at which the hazardous material is released as a puff and/or plume to the environment. Basic principles of two-phase flow and choked flow discharges, as well

Professional Development Workshops (cont.)

as liquid pool heat transfer and evaporation, are among the topics to be discussed in conjunction with the mechanical engineering and thermodynamic principles that underlie the characterization of the chemical source term. (See <http://www.2006sharingsolutions.com> for more information).

Urban Search and Rescue Performance Measures of Intelligent Systems Workshop

Instructor: Elena Messina and Adam Jacoff, National Institute of Standards and Technology
Time: 9:30 a.m. – 3:30 p.m.
Location: Room D

Description

Urban Search and Rescue (US&R) is one of the most challenging and dangerous activities that responders have to undertake. The environment is chaotic, hazardous and dynamic, and the rescue operations are time-critical. Intelligent systems can assist human responders in various ways, including decision support and planning of resource deployments, the use of robotic platforms to augment the exploration of collapsed buildings to locate victims, assess structural integrity, and detect hazards, and smart sensor networks to provide early warning on events and monitor the situation. Modeling and simulation tools can also enhance preparedness by providing opportunities to evaluate different approaches and strategies. The performance of all of these technologies must be measured and evaluated in order to determine the most effective and efficient solutions as well as to ensure that systems meet the operational requirements when deployed.

The goals of this workshop are:

- dissemination of research in urban search and rescue intelligent systems of various types
- establishment of operational environment characteristics to guide development of technologies and of performance measures
- promoting dialogue between technology developers and responders

Wednesday, February 15, 2006

MERRTT Workshop

Instructor: Marsha Keister, U.S. Department of Energy
Time: 1:00 p.m. – 4:30 p.m.
Location: Room F

Description

The DOE Transportation Emergency Preparedness Program's (TEPP) Modular Emergency Response Radiological Transportation Training (MERRTT) overviews fundamentals for responding to transportation incidents involving radioactive material. The course examines DOE radioactive materials shipments and DOE resources available to responders. The course will include an overview of radiological basics, biological effects and recognition of radiological transportation hazards. Attendees will gain an understanding of initial response actions for response to radiological transportation incidents.

Thursday, February 16, 2006

MERRTT Train the Trainer Workshop

Instructor: Marsha Keister, U.S. Department of Energy
Time: 9:00 a.m. – 4:00 p.m.
Location: Room F

Description

DOE certified instructors will be available to provide information to emergency responders interested in scheduling MERRTT, full day or train-the-trainer, courses in their jurisdictions.

Note:

This is a preliminary listing. Times and locations are subject to change. The Official Program, distributed at the meeting, will contain the final meeting schedule.

Panel Sessions

Industry Emergency Preparedness Update and Review of Emerging Issues

Session Chair: Alan Nelson
Nuclear Energy Institute

An industry panel will discuss current regulatory issues of interest. The panel will provide a review of emergency preparedness regulatory initiatives, and industry's performance in emergency preparedness including lessons learned over the past the year.

This Panel will be in two sessions with a Part 1 and a Part 2 in succession.

Tuesday, February 14, 2006 • 8:20 – 10:00 a.m.

Part I

- Regulatory initiatives Emergency Preparedness – Security Enhancements and Implementation
 - Alan Nelson, NEI
- Emergency Classification Schemes
 - Walter Lee, Southern Nuclear
- Accelerated Calls. Emergency Response Organization Augmentation
 - Marty Vonk, NMC
- Protective Actions Onsite/Offsite
 - James Jones, Constellation

Tuesday, February 14, 2006 • 10:20 - Noon

Part II

- Integrated Response Drills
 - Scott McCain, Exelon Nuclear Midwest Region
- Industry review of Table Top Drills – lessons learned, areas of strength and suggested improvements
 - Mark Lemke, Pacific Gas & Electric
- Emergency preparedness and the public
 - Thelma Wiggins, NEI
- Open Question and Answer
 - Alan Nelson, NEI

National Response Nuclear and Radiological Incidents

Tuesday, February 14, 2006 • 10:20 - Noon

Session Co-Chair: W. Craig Conklin
Chief, Nuclear and Chemical Hazards Branch
Department Homeland Security
The Nuclear/Radiological Incident Annex
And

Stephen Domotor
Chair, Interagency Operational Guidelines Task Group
Department of Energy
Nuclear Response - The department of Homeland Security Science and Technology "Playbook"

Session Participants:

Dan Wilcox, Senior Program Analyst
Department of Homeland Security
Protective Action Guides (PAGs) for Responding to Radiological Dispersal Devices (RDDs)
John MacKinney, Senior Program Analyst
Environmental Protection Agency
Implementing the PAGs for RDDs - Operational Guides
Brooke Buddemeier, Senior Scientist
Department of Homeland Security

Lessons Learned - Psychological and Economic Impacts from a Nuclear Emergency Involving a Terrorist Act

Wednesday, February 15, 2006 • 8:20 – 10:00 a.m.

Session Chair: Thomas McKenna
International Atomic Energy Agency (IAEA)

During many nuclear and radiological emergencies there has been a slow and ineffective response with the accompanying loss of trust in public officials and in some cases an unrealistically high perception of the risk by the public. This has resulted in significant adverse radiological, psychological and economic effects and the public taking unjustified actions. This has occurred even during emergencies with insignificant radiological consequences off site and would be expected if the emergency involved a terrorist act. This session will discuss what past emergencies tell us about the nature and causes of these consequences and what actions are being taken to reduce their impact in the event of a nuclear or radiological emergency.

Session Participants:

Mr. John Croft
Head of Emergency Response
Centre for Emergency Preparedness and Response, UK

Panel Sessions

(Cont.)

Lessons Learned - Psychological and Economic Impacts from a Nuclear Emergency Involving a Terrorist Act

Wednesday, February 15, 2006 • 8:20 – 10:00 a.m.
(Cont.)

Mr. Jacov Kenigsberg
National Commission of Radiation Protection, Belarus

Mr. Nelson Jose de Lima Valverde
Rua Jornalista Enrique Cordeiro, Brazil

Mr. Michael K. Lindell
Senior Faculty Fellow, Hazard Reduction & Recovery Center – Texas A&M University

Mr. Fred Mettler
Dept. of Radiology, New Mexico Federal Regional Medical Center

Promise and Challenges: Transportation Security Applications of Unmanned Aerial Vehicles

Wednesday, February 15, 2006 • 10:20 - Noon

Session Chair: Kevin Clark
U.S. Department of Transportation

Session Participants:
Dr. Aviva Brecher
Remote Sensing Program Manager Volpe Center

Dr. Larry Harmon
Director of the J. Joseph Moakley Center for Technological Applications

Public and Media Relations

Wednesday, February 15, 2006 • 3:30 – 5:10 p.m.

Session Chair: Keith Arterburn
Idaho National Laboratory

More information forthcoming.

Meeting Highlights

Saturday, February 11, 2006

- 1:00 p.m. – 5:00 p.m. Meeting Registration
- 8:30 a.m. – 4:00 p.m. Detecting Radiation World Workshop

Sunday, February 12, 2006

- 9:00 a.m. – 5:00 p.m. Meeting Registration
- 9:00 a.m. – 3:00 p.m. RADTRAN Training Workshop
- 9:00 a.m. – 3:00 p.m. Emergency Response: Hazardous Materials First Responder Awareness Workshop
- 9:00 a.m. – 3:30 p.m. Chemical Dispersion and Consequence Assessment Methodology Workshop
- 9:30 a.m. – 3:30 p.m. Urban Search and Rescue Performance Measures of Intelligent Systems Workshop
- 7:00 p.m. – 9:00 p.m. Welcome Reception in Exhibit Hall, Sponsored by **PaR Systems**
- 10:00 a.m. – 3:00 p.m. Multiple Division Meetings (specific times and locations to be listed in Final Program)
- 7:00 p.m. – 9:00 p.m. **2008 Topical Kickoff meeting**

Monday, February 13, 2006

- 7:30 a.m. – 5:00 p.m. Meeting Registration
- 8:30 a.m. – 10:00 a.m. Opening Plenary
- 10:00 a.m. – 10:20 a.m. Morning Break
- 10:20 a.m. – 12:00 p.m. Technical Sessions
- 12:00 p.m. – 1:30 p.m. Lunch Break
- 1:30 p.m. – 3:10 p.m. Technical Sessions
- 3:10 p.m. – 3:30 p.m. Afternoon Break
- 3:30 p.m. – 5:10 p.m. Technical Sessions

Tuesday, February 14, 2006

- 7:30 a.m. – 5:00 p.m. Meeting Registration
- 8:20 a.m. – 10:00 a.m. Technical Sessions
- 10:00 a.m. – 10:20 a.m. Morning Break
- 10:20 a.m. – 12:00 p.m. Technical Sessions
- 12:00 p.m. – 1:30 p.m. Lunch Break
- 1:30 p.m. – 3:10 p.m. Technical Sessions
- 3:10 p.m. – 3:30 p.m. Afternoon Break
- 3:30 p.m. – 5:10 p.m. Technical Sessions

Wednesday, February 15, 2006

7:30 a.m. – 5:00 p.m.	Meeting Registration
8:20 a.m. – 10:00 a.m.	Technical Sessions
10:00 a.m. – 10:20 a.m.	Morning Break
10:20 a.m. – 12:00 p.m.	Technical Sessions
12:00 p.m. – 1:30 p.m.	Banquet Luncheon, Sponsored by <i>Nuclear Energy Institute</i>  and <i>EPR</i>  <small>ELECTRIC POWER RESEARCH INSTITUTE</small>
1:00 p.m. – 4:30 p.m.	MERRTT Workshop
1:30 p.m. – 3:10 p.m.	Technical Sessions
3:10 p.m. – 3:30 p.m.	Afternoon Break
3:30 p.m. – 5:10 p.m.	Technical Sessions

Thursday, February 16, 2006

9:00 a.m. – 4:00 p.m.	MERRTT Train-the-Trainer Workshop
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Technical Sessions by Day – Monday

Monday, February 13, 2006 • 8:30 – 10:00 a.m.

Opening Plenary

Speakers will be Admiral Joseph Krol, Associate Administrator of Emergency Operations at the National Nuclear Security Administration, Mr. Ken Brockman of IAEA, and Mr. Harold McFarlane of INL and President Elect of the American Nuclear Society.

To assist you in determining each Session type, designators of E for EP&R Session, R for Robotics and Remote System Session or J for Joint Session follow each Session title.

Monday, February 13, 2006 • 10:20 a.m. – Noon

Consequence Management and Assessment-Medical and Psychological Aspects - Michael Sandvig, Chair - E

Radiological Considerations in Disaster Mortuary Operations, *Charles Wood*

Criticality Accident: Dosimetric Management for the Triage of Victims, *Laurence Lebaron-Jacobs*

Lessons Learned Concerning the Human Element in Events and Training, *Michael Sandvig*

Department of Energy Radiological Response Assets, *Steven Morreale*

This Is A Drill! (Hanford Emergency Operations Center in Action) Reloaded, *Carl Connell*

Enhancing Emergency Response Coordination - Jeff Lafortune, Chair - E

The BOT-Mi Virtual Crisis Management Centre, *Chris Dijkens*

Nuclear Emergency Exercise Software for Simulating Field Data (S3-Exercise Suite), *Corinne Lantaigne*

Methodology and Lessons Learned From A Large Scale Radiological Exercise, *Marc Desrosiers*

Rapid Triage Management Workbench (RTMW): A Tool for Gathering Managing Emergency Medical Data, *Laura Brown*

Mask Modeling for Dose Rates From Contaminated Filters, *Lorne Erhardt*

Consequence Assessment Modeling at DOE Facilities - Robert Addis, Chair - E

The Savannah River National Laboratory's Response During the Graniteville, SC Train Accident, *Charles Hunter*
Detailed Numerical Simulation of Meteorology During the Graniteville Train Collision, *Robert Buckley*

Recent Improvements to an Advanced Atmospheric Transport Modeling System, *Robert Buckley*

Meteorological Support at the Savannah River Site, *Robert Addis*

Bayesian / Geostatistical Approach to Hazard Footprint Delineation, *Robert Johnson*

Large Area Characterization Systems – Leah Street, Chair - J

Ultra-wide Range Gamma Detector System for Search and Locate Operations, *D. Odell*

Real Time Quantitative Radiological Monitoring Equipment for Environmental Assessment, *John Giles*

Rad Pole Cam Development, *Frank Heckendorn*

A Survey of Autonomous Robot Swarms for Hazardous Environments, *Daniel Stormont*

Blue Swarms, *Daniel Stormont*

Monday, February 13, 2006 • 1:30 – 3:10 p.m.

The European ENSEMBLE Program - Robert Addis, Chair - E

Application of Ensemble Weather Forecasting to Atmospheric Dispersion Calculations, *Slawomir Potemski*

Real Time Multi-Model Ensemble Dispersion Forecasting and Model Evaluation for Emergency Response, *Stefano Galmarini*

Ensemble's: Different Approaches for Atmospheric Dispersion Forecasts, *Gertie Geertsema*

Savannah River National Laboratory Involvement in the European ENSEMBLE Program, *Robert Buckley*

Ensemble Forecast of Radioactive Dispersion Over Norway in Case of Hypothetical Nuclear Accident, *Jerzy Bartnicki*

**Monday, February 13, 2006 • 1:30 – 3:10 p.m.
(Cont.)**

***Autonomous Robot Behaviors for Man-Portable
Military Ground Vehicles - David Bruemmer, Chair - J***

Industrial Manipulator Control Optimization for
Manufacturing Processes, *Jeremy Sevier*

Sensor Fusion for Automatic Detection of Human
Presence, *Greg Kogut*

Automated Launch, Landing and Servicing Technologies
for Increased UGV-UAV Effectiveness, *Kathy Mullens*

Mobile Manipulation for Emergency Response Robots,
David Bruemmer

Dynamic Autonomy for a Highly Dexterous Humanoid
Robot, *David Bruemmer*

Monday, February 13, 2006 • 3:30 – 5:10 p.m.

***Modeling Atmospheric Consequence Assessment in
Europe - Robert Addis, Chair - E***

Emergency Dispersion Models at the Deutscher
Wetterdienst - Model Evaluation Using Ensemble-
Techniques, *Hubert Glaab*

Atmospheric Transport and Deposition of Radioactive
Particles From Potential Accidents at Kola Nuclear Power
Plant, *Jerzy Bartnicki*

Practical Application of Data Assimilation in an
Emergency Response System, *Harry Eleveld*

Modeling of Air and Ground Contamination Associated
With Nuclear Weapons, *Christer Persson*

Advanced System for Emergency Planning and
Response for Chemical Plants, *Mieczyslaw Borysiewicz*

***Human Performance in Emergency Response - David
Gertman, Chair - E***

Modeling and Simulation of Organizational Behavior in
Emergency Response, *Taro Kanno*

Decision Consequence in Complex Environments:
Visualizing Decision Impact, *Donald Dudenhoeffer*

Models to Support Human Factors Management of High
Consequence Events, *Bruce Hallbert*

Human Reliability Analysis as a Modeling Tool for
Homeland Defense, *David Gertman*

Human Factors in Emergency Response: Planning,
Training, and Reality, *Robert Turk*

***Emergency Response Robotic Platforms - Johann
Borenstein, Chair - J***

A Reconfigurable Mobile Manipulation System With
Integrated Mobility and Manipulation Software, *Dinesh
Rabindran*

Robots are Essential in Addressing HAZMAT Incidents,
Charles Dean

The OmniTread OT-4 Serpentine Robot for Emergencies
and Hazardous Environments, *Johann Borenstein*

Development of an Expendable Robot for Explosive
Ordnance Disposal, *Todd Zimmerman*

Understanding Interaction Space for Simulation of
Autonomous Robot Behavior, *Carl Kaiser*

On-Line Distributed Parameter System Estimation by a
Mobile Sensor Network, *Zhen Song*

***Technical Sessions by Day –
Tuesday***

Tuesday, February 14, 2006 • 8:20 – 10:00 a.m.

***National Response to Nuclear and Radiological
Incidents - W. Craig Conklin, Chair - E***

The New Framework for Domestic Incident Management
- The National Incident Management System, *John
MacKinney*

The New System for Emergency Response - The
National Response Plan, *Craig Conklin*

The Nuclear/Radiological Incident Annex, *Dan Wilcox*

Protective Action Guides (PAGs) for Responding to
Radiological Dispersal Devices (RDDs), *Brooke
Buddemeier*

Implementing the Protective Action Guides (PAGs) for
Responding to Radiological Dispersal Devices (RDDs) -
Operational Guides, *Stephen Domotor*

***Industry Emergency Preparedness Update and
Review of Emerging Issues, Part 1 - Panel Session-
Alan Nelson, Chair - E***

***Security Issues and Analysis - Patricia Milligan, Chair
- E***

Development of Emergency Information Share Tool for
Collaboration, *Fumitaka Watanabe*

**Tuesday, February 14, 2006 • 8:20 – 10:00 a.m.
(Cont.)**

Infrastructure Design for Monitoring of Hazardous Sites During Incidents, *William Armitage*

Using Multi-Attribute Decision Making Methods to Respond to a Nuclear Accident, *Wayne Andrews*

Safety, Security, and Emergency Preparedness Changes and Challenges in the Post 9/11 World, *Kathryn Brock*

Nuclear Weapon Accidents and Environmental Law--Help Or Hindrance? *Raymond Swenson*

University Research Program for Robotics- Carl Crane, Chair - R

Rapid Robot Trajectory Definition for Hazardous Environments, *John Wood*

Development of a Passive Compliant Coupler to Control Force and Torque During In-Contact Operations, *Carl Crane*

Rugged Manipulator Elbow Actuator Prototype for D & D Tasks, *Ganesh Krishnamoorthy*

Modular Sensor Processing For Robotics-Based Security in Hazardous Environments, *Chang Cheng*

Improving Video-Based Robot Self Localization Through Outlier Removal, *Brad Grinstead*

Survivable Mobile Robot System With Multi-Task Capabilities, *Dean Schoenfeld*

Urban Search and Rescue Robots - Robin Murphy, Chair - J

Gaps Analysis for Rescue Robots, *Robin Murphy*

A Variable Geometry Tracked Robot for Urban Search and Rescue, *Michael Conboy*

Lightweight Crawler-Bot for Search and Rescue Or Surveillance Missions, *Scott Adams*

A Comparison of Robot Swarm Algorithms for USAR, *Daniel Stormont*

Rescue Robot Performance at 2005 La Conchita Mudslides, *Robin Murphy*

Tuesday, February 14, 2006 • 10:20 a.m. – Noon

National Response to Nuclear and Radiological Incidents, Panel Session - W. Craig Conklin, Chair - E

Industry Emergency Preparedness Update and Review of Emerging Issues, Part 2 - Panel Session - Alan Nelson, Chair - E

Emergency Response Systems and Equipment - James Bollinger, Chair - E

GIS Dynamic Population Model Tool for Savannah River Site Emergency Response, *Tracy McLane*

Non-GPS Navigation for Emergency Responders, *Johann Borenstein*

Remote Field Worker Tool for ArcGIS, *Brad Pond*

Integration of Predicted Atmospheric Contaminant Plumes into ArcView GIS, *Larry Koffman*

Remote Manipulation –Chris Eason, Chair - R

Task Space Control of a Nuclear Safety Robot With Changeable Grippers, *Emin Kececi*

Carbon Fiber Arms and Robotic Manipulators Allow Remote Decommissioning, *Matt Cole*

Powered Remote Manipulators -- Powerful Replacements for Hot Cell Manipulators, *Matt Cole*

Remote Hydrolasing for Removal of Contaminated Concrete, *Rob Owen*

Overview of the Remote Handling Technologies Developed, *Philippe Desbats*

Robotics Collaborative Technology Alliance Program Part 1 - Chuck Shoemaker, Chair - J

Advanced Perception Approaches for Operation In Unstructured Environments, *Martial Hebert*

Overview of Army Investments for Autonomous Mobility, *Chuck Shoemaker*

Intelligent Control and Tactical Behavior Development: A Long Term NIST Partnership With the Army, *James Albus*

The Geometric Path Planner for Navigating Unmanned Vehicles in Dynamic Environments, *Anthony Stentz*

Collaborative Technology Alliance-Robotics: A Basic and Applied Research Strategy to Develop Critical Technology for the DoD's Intelligent Systems, *Kevin Bonner*

Tuesday, February 14, 2006 • 1:30 – 3:10 p.m.

Health Effects Criteria for Hazards Assessment - James Fairbent, Carl Mazzola, Co-Chairs - E

Department of Energy Protective Action Criteria for Uranium Hexafluoride, *James Jamison*

Transitioning to ICRP 60/70 Series Dose Conversion Factors, *Wayne Davis*

The Development of Emergency Response Values, *Richard Thomas*

Recent Changes to TEEL-Derivation Methodology, *Douglas Craig*

Chemical Mixture Emergency Release Exposure Analysis - An Automated Tool, *Douglas Craig*

International Programs / Issues - Eric Loewen, Chair - E

An International Exercise at the IAEA, *Martin Hug*

Research of Improving the Blockage of Emergency Network, *WeiWei Wu*

Impact of the New Law BACHELOT for Pro-Active Risk Management in France, *Alex Dafi*

Planning for National Energy Sustainability During Abrupt Climate Change Emergencies, *Eric Loewen*

Mobile Robots in Hazardous Environments - James Jones, Chair - R

Shielded Lift Trucks for Nuclear Material Handling in High Density Storage Vaults, *Ronald Simon*

Strategic Reserve Stage Right: An Automated Material Handling, Inventory, and Tracking System, *Scott Rose*

Controller Design for an Expert Spacecraft Robot Performing Proximity Operations, *Theresia Jonsson*

Compensation Strategy for Six-Axis Underwater Robot to Improve Positioning Accuracy, *Samuel Glass*

Remote / Intelligent Characterization - Richard Meservey, Chair - R

Chile Identification for Metrics in the Chile Industry, *Maritza Muguira*

Application of Robotics and X-Ray Radiography to the Examination of Contact Handled Transuranic (TRU) Waste Containers, *Dennis Densmore*

Advanced Robotic Platform for Internal Pipe Inspection, *Bob Torbin*

Innovative Robot for Inspection of Nuclear Steam Generators, *Lyman Petrosky*

Explorer: Gas Pipeline Robot Field Test Results and Future Development, *Hagen Schempf*

Robotics Collaborative Technology Alliance Program Part 2 - Chuck Shoemaker, Chair - R

Tank Automotive Robotics: Development and Integration of Intelligent Vehicle Technologies for Army Applications, *Jeff Jaczkowski*

Advanced Planning for Autonomous Mobility, *Karl Murphy*

Exploring Transfer Mechanisms for Robotics CTA Technology, *Barbara Lindauer*

Autonomous Navigation System, *Phil Cory*

Human Control of Unmanned Systems Under Stressful Conditions, *David Dahn*

Tuesday, February 14, 2006 • 3:30 – 5:10 p.m.

Remote / Robotics Lessons Learned from the Field - Mark Price, Chair - R

Development and Deployment of Salt Core Sampling System at SRS, *Tom Nance*

Instrumentation of an Automated System: Design Expectations Versus Operational Experience, *Steve Shaw*

Tele-Operated Robotic Systems for Nuclear Power Plants in South Korea and Lessons Learned, *Kyung-min Jeong*

Real Time Kinematic GPS Surveying at the Rocky Environmental Technology Site (RFETS), *Brian Blaser*

Snake-Arm Robotics for SCRAM Pipe Repair, Sweden, *Rob Buckingham*

Teleoperation Experiments With a Water Hydraulic Manipulator, *Jouni Mattila*

Advanced Telerobotic Systems - Mark Noakes, Chair - R

Recent Telerobotic Systems Developments at the University of Tennessee, *Mark Noakes*

Robot Task Space Analyzer System Calibration, *Andrzej Nycz*

Using The WAM as a Master Controller, *Renbin Zhou*

Spallation Neutron Source Remote Handling Implementation, *Thomas Burgess*

**Tuesday, February 14, 2006 • 3:30 – 5:10 p.m.
(Cont.)**

Rare Isotope Accelerator Remote Handling Concepts,
David Conner

System Level Control and Data Management for Yucca
Mountain Remote Waste Package Closure, *Rodney
Shurtliff*

Human - Robot Interaction - Julie Marble, Chair - J

CHAVIR: A Virtual Reality Simulation Environment
for Hazardous Nuclear Working Sites, *Philippe Desbats*

Design of the ITER –Fusion Device Divertor Maintenance
Equipment, *Mikko Siuko*

ROViR Centre, *Arto Timperi*

***Technical Sessions by Day –
Wednesday***

**Wednesday, February 15, 2006 • 8:20 –
10:00 a.m.**

***Hazardous Assessment and Risk Management -
James Fairobent, Chair - E***

Disaster Risk Management in South-East Asia, *Alex Dali*

FIRM: A Game Theory Based Multi-Crisis Management
System for Urban Environments, *Upavan Gupta*

Emergency Preparedness, Business Continuity, and the
New Normal, *Robert Wester*

Hazards Screening Processes for Emergency Planning,
Jeff Long

Emergency Field Monitoring Considerations for TRU
Plume, *Richard Rodriguez*

***Lessons Learned – Psychological and Economic
Impacts from a Nuclear Emergency Involving a
Terrorist Act-Panel Session - Thomas Mckenna, Chair
- E***

Micromanipulation - Elizabeth Wales, Chair - R

Robotic Workstation for the Assembly of Heterogeneous
MEMS Devices, *James Jones*

Probe-Based Micro-Scale Manipulation and Assembly
Using Force Feedback, *Jason Gorman*

Modular MicroAssembly System for MEMS Packaging,
Dan Popa

Compliant Microassembly in MEMS, *Ping Zhang*

***Remote/Robotic Activities at Hanford - Michael
Rinker, Chair - R***

Hydrolasing of Contaminated Underwater Basin Surfaces
at the Hanford K-Area, *Glen Chronister*

Remote Handling Equipment at the Hanford Waste
Treatment Plant, *Michael Bardal*

Development of a Mobile Radiation Detection System,
Carl Baker

Lessons Learned in the Development of Gamma-Rover
(GRover) Inspection Device, *Patrick Valdez*

***Wireless Technologies for Emergency Response,
Part 1 - Kevin Young, Chair - J***

Hazard Assessment Wing for Communication and
Intelligence (HAWCi), *Tom Allen*

Operational Requirements for Digital Wireless
Communications in WMD/CST Operations, *James
Hardcastle*

Bread Crumb Wireless LAN Networks for First
Responders, *Peter Lenard*

Mobile Remote *Radiation Detection and Display System*,
Gary Wright

**Wednesday, February 15, 2006 • 10:20 a.m. –
Noon.**

***Emergency Planning and Response - James
Fairobent, Chair - E***

Response and Cleanup of Unintentional Radiological
Dispersal Device-Ir 192 Radiography Source, *Robin Shult*

Mitigation of Explosive Dispersal Devices Using Aqueous
Foams, *William Wentz*

Remote Chemical Detection Using Quantum Cascade
Lasers, *Brian Hatchell*

Siting Design for Liquid Hydrogen Supply Tanks to
Minimize Emergency Impacts of Adverse Events, *Jila
Banaee*

Anomaly Detection in Gamma Ray Vehicle Spectra With
Principal Components Analysis and Mahalanobis
Distances, *Mark Tardiff*

Wednesday, February 15, 2006 • 10:20 a.m. – Noon. (Cont.)

National Emergency Response - Robert Addis, Chair - E

Proposed Regional Centers for Emergency Response to Support the Interagency Modeling and Atmospheric Assessment Center, *Robert Addis*

Coordination of the Federal Atmospheric Transport and Diffusion (ATD) Modeling Capability, *Samuel Williamson*

National Multi-agency Support for Airborne Hazard Prediction, *John Nasstrom*

The Advisory Team for Environment, Food, and Health and its Evolving Role in the National Response Plan, *Paul Charp*

A Synergistic Consequence Assessment Modeling Strategy for Emergency Operations Centers, *Clifford Glantz*

Remote Sensing Lab (RSL) Late Breaking News, Radiological Emergency Response, Part 1 - Carson Riland, Chair - E

Lessons Learned in Aerial Surveillance for Lost Radiological Sources, *Robert Hayes*

Promise and Challenges: Transportation Security Applications of Remote Sensing/Unmanned Aerial Vehicle (UAV) Systems – Panel Session - Kevin Clark, Chair - J

Wednesday, February 15, 2006 • 1:30 – 3:10 p.m.

DARPA GRAND CHALLENGE - Late Breaking News - Kwan Kwok, Chair - J

GIS Panel Session - James Bollinger, Chair - E

RSL Late Breaking News, Radiological Emergency Response, Part 2 - Carson Riland, Chair - E

Wireless Technologies for Emergency Response, Part 2 - Kevin Young, Chair - J

Hazmat Cam Wireless Video System, *Kevin Young*

Unmanned Aerial Vehicle (UAV) Wireless Deployed Dynamic-Tracking Directional Antennas for Low Powered Applications That Require Extended Range Operations in Time Critical Applications, *Scott Bauer*

Wireless Hazardous Material Detection Training Systems and Their Future, *Kevin Hungate*

Smart Antennas and Their Benefits for Emergency Response, *Lynda Brighton*

An Improved Integrated Rad-Hard Wireless Communication/Control System With Dual Use Applications, *Dean Schoenfeld*

Wednesday, February 15, 2006 • 3:30 – 5:10 p.m.

Spent Nuclear Fuel Transportation Issues-Panel Session - Ruth Weiner, Chair - E

Public/Media Relations-Panel Session - Keith Arterburn, Chair - E

“Getting the Word Out” Emergency Preparedness Communication Challenges Post 9/11, *Kathryn Brock*

Public Information at Ground Zero, *Brett Hansard*

Public/Media Relations - Panel, Brett Brock, *Keith, Arterburn*

Public/Media Relations-Panel Session - Keith Arterburn, Chair - E

“Getting the Word Out” Emergency Preparedness Communication Challenges Post 9/11, *Kathryn Brock*

Public Information at Ground Zero, *Brett Hansard*

Public/Media Relations - Panel, Brett Brock, *Keith, Arterburn*

Katrina and Other Recent Disasters, Late Breaking Research - TBD Chair - J

Note:

This is a preliminary listing. Times and locations are subject to change. The Official Program, distributed at the meeting, will contain the final meeting schedule.

Exhibit Information

A technical exhibit will be held at the meeting, bringing together exhibitors from a wide range of companies in emergency response and hazardous environments industries allowing meeting participants to learn more about cutting-edge products and technologies that are directly applicable to their current projects.

Publicize your company by becoming a co-sponsor, contributor, or exhibitor and /or by sponsoring a high visibility event during the meeting. Each booth will include: 8' high backwall, 3' high side rails, one 8' skirted table (in show colors), two chairs, identification sign showing exhibitor's name and booth number.

Exhibit Hours

Sunday

Set-up 8:00 a.m. – 5:00 p.m.

Monday and Tuesday

10:00 a.m. – 6:00 p.m. 8:30 a.m. – 12 noon

ANS Welcome Reception

5:00 p.m. – 7:00 p.m.

Wednesday

8:00 a.m. – 12 noon

Move-out 12 noon – 3:00 p.m.

The following options are available:

Co-Sponsor Level (\$7500 and above)

- 8'x10' exhibit space
- Recognition at a major topical event
- Recognition in topical promotional materials
- Preferred placing of logo on topical materials
- Option to include promotional item in participation kits
- Listing on web site and link to corporate home page
- Three complimentary registrations including opening reception
- Four complimentary tickets to opening reception

Contributor Level (\$5000-\$7500)

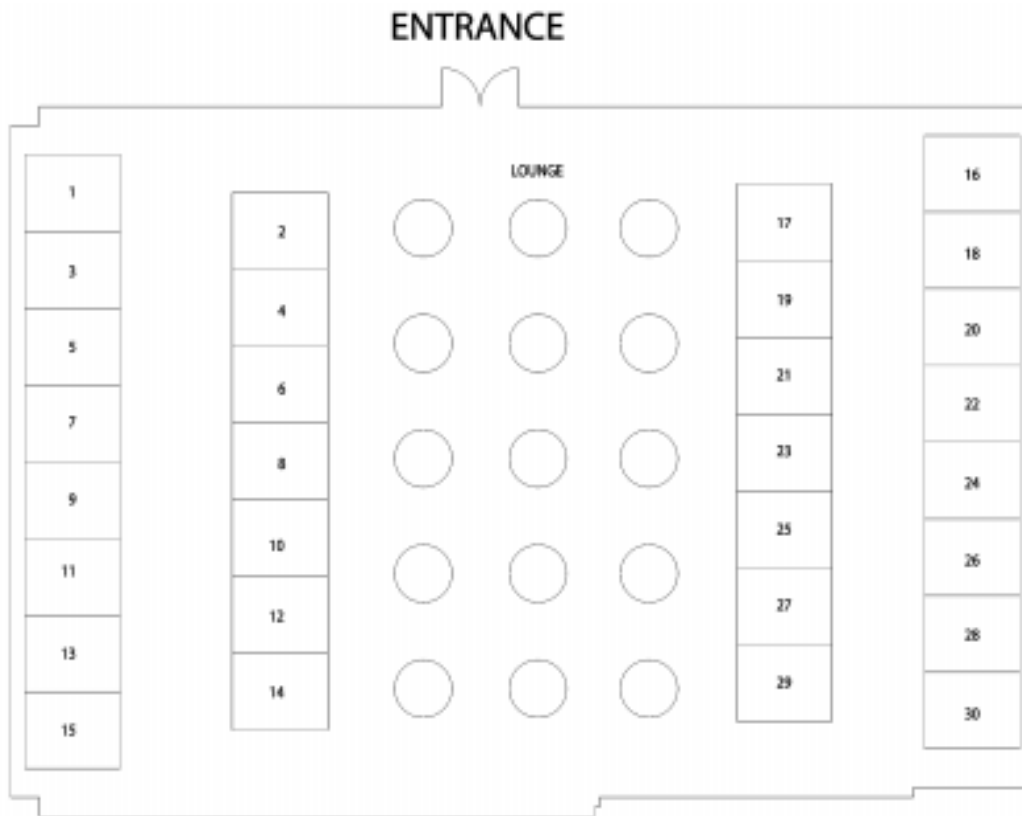
- 8'x10' exhibit space
- Recognition at selected topical event
- Recognition in topical promotional materials
- Listing on web site and link to corporate home page
- Two complimentary registrations including opening reception
- Three complimentary tickets to opening reception

Exhibitor

- \$1700 ANS Corporate Members (single booth)
- \$1500 ANS Corporate Members (more than one booth)
- \$1900 Non ANS Member (single booth)
- \$1700 Non ANS Member (more than one booth)
- 8'x10' exhibit space in exhibit hall
- Recognition in promotional materials
- One complimentary registration, including opening reception
- Two complimentary tickets to opening reception

Spaces available for vendors will be allocated on a 1st come, 1st served basis. See exhibit diagram on next page for more detail. For more information, please contact: Carrie Koliha, ckoliha@par.com or Albert Sturm (Exhibit Chair), a.sturm@par.com

Exhibit Layout



Meeting Registration Form

1st Joint Emergency Preparedness and Response & Robotic and Remote Systems Topical Meeting “Sharing Solutions for Emergencies and Hazardous Environments”

Marriott Salt Lake City Downtown • Salt Lake City, Utah • February 12-15, 2006

Fill Out Completely, Please Print

* ANS or Sponsoring Organization Member ID#: _____

First Name/Middle Initial: _____ Last Name: _____

Title: _____ Company/Affiliation: _____

Name as you would like it to appear on your badge (e.g., John Doe): _____

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City/State/Zip Code: _____ Country: _____

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Please check if this is your: Primary Address or Address for Meeting Only

Note: Please check here if special accommodations or medical/religious dietary needs are required to fully participate. ANS will contact you.

If you are an active member of a sponsoring organization, you qualify for the ANS Member rate. See website <http://www.2006sharingsolutions.com> for complete list of sponsors.

** I am an active member of the _____, a sponsor for the 2006 International Joint Topical Meeting. I understand that my membership will be verified.*

	<u>Fees Paid by January 10, 2006</u>		<u>Fees Paid After January 10, 2006</u>	
	<u>ANS Member*</u>	<u>Non-Member</u>	<u>ANS Member*</u>	<u>Non-Member</u>
Full Conference Registration <i>Includes Welcome Reception, Conference Luncheon, proceedings, and admittance to technical sessions.</i>	[01] <input type="checkbox"/> \$525	[02] <input type="checkbox"/> \$675	[09] <input type="checkbox"/> \$600	[10] <input type="checkbox"/> \$750
Daily Conference Registration <i>Includes sessions on day registered and proceedings - check day: Monday Tuesday Wednesday Does not include tickets to any events</i>	[03] <input type="checkbox"/> \$325	[04] <input type="checkbox"/> \$375	[11] <input type="checkbox"/> \$400	[12] <input type="checkbox"/> \$450
Student <i>Includes technical sessions and proceedings • Full time student ID required • Does not include tickets to any events</i>	[05] <input type="checkbox"/> \$75	[06] <input type="checkbox"/> \$100	[13] <input type="checkbox"/> \$100	[14] <input type="checkbox"/> \$175
ANS Emeritus Member <i>Includes technical sessions and proceedings Does not include tickets to any events</i>	[07] <input type="checkbox"/> \$50	N/A	[15] <input type="checkbox"/> \$75	N/A
Spouse/Guest Registration <i>Includes 1 ticket to the Opening Reception and admittance to the Spouse/Guest hospitality room only. Does not include technical sessions or other events.</i>	[08] <input type="checkbox"/> \$75	N/A	[16] <input type="checkbox"/> \$100	N/A

Spouse/Guest Name: _____
 (as it will appear on badge)

Additional Tickets

Workshops

Saturday, February 11, 2006

Teachers Workshop (Mary Lou Dunzik-Gougar, Idaho State University) [17] \$50.00

Sunday, February 12, 2006

RADTRAN Computer Code Training (Ruth Weiner, Sandia Natl. Laboratory) [18] \$ 50.00

First Responder Training (Mike Carpenter, Garner Environmental Services) [19] \$125.00

Chemical Dispersion and Consequence Assessment Methodology (Carl Mazzola, Shaw Environmental)
[20] \$125.00

Urban Search and Rescue Performance Measure for Intelligent Systems (NIST) [21] \$50.00

Wednesday, February 15, 2006

DOE Transportation Emergency Preparedness Program's (TEPP) Modular Emergency Response Radiological Training (MERRTT) (Marsha Keister, US Department of Energy) [22] \$50.00

Thursday, February 16, 2006

DOE Transportation Emergency Preparedness Program's (TEPP) Modular Emergency Response Radiological Training (MERRTT) Train-the-Trainer Workshop (Marsha Keister, US Department of Energy) [23] \$50.00

Opening Reception (Sunday, February 12, 2006) [24] # of tickets _____ @ \$30 each = \$ _____

Conference Luncheon (Wednesday February 15, 2006) [25] # of tickets _____ @ \$30 each = \$ _____

Grand Total and Form of Payment for Conference

Grand Total for Conference Registration: \$ _____

Method of Payment

Check American Express VISA MasterCard Diners Club Wire Transfer

Credit Card Number: _____ Expiration Date: _____

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Make checks payable to ANS in U.S. funds and mail to ANS Registrar, P.O. Box 97781, Chicago, IL 60678-7781. Credit card registrations may be faxed to 708/579-8314. Do not mail registrations which have been faxed. Registration cancellations must be made in writing prior to January 11, 2006, in order to receive a refund minus a \$75 processing fee. Meeting registrations, workshop registrations and additional tickets cancelled after January 11, 2006, will not be refunded; however, you may send a substitute. Please contact the ANS Registrar at 708/579-8316 with any questions.

Hotel Registration Form

1st Joint Emergency Preparedness and Response &
Robotic and Remote Systems Topical Meeting
February 12-15, 2006

Marriott Salt Lake City Downtown Salt Lake City, Utah

Hotel Phone: 801/ 531-0800 • Reservation Fax: 801/ 532-4127
Toll Free Reservation: 800/ 831-4004

Send this form directly to the Salt Lake City Marriott Downtown - Do NOT send this form to the American Nuclear Society
Group Code: ANSANS

PLEASE PRINT OR TYPE

GUEST NAME(S): _____

COMPANY: _____

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TELEPHONE: _____ FAX: _____ EMAIL: _____

ARRIVAL DATE: _____ DEPARTURE DATE: _____

PREFERRED ACCOMMODATIONS: *Please note that occupancy tax currently is 11.25% per night*

Special Request: Handicap Accessible

Accommodations: Standard Room @ \$80.00 per night

Additional Special Request: _____

Expected Arrival Time: _____

Check-in Time is 3:00 p.m. • Check-out Time is 12:00 p.m.

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PLEASE NOTE: RESERVE YOUR ROOM EARLY!

- HOTEL RESERVATION MUST BE RECEIVED BY January 10, 2006. After this date, reservations will be subject to availability.
- Reservations are filled on a first-come, first served basis.
- No deposit is needed, but a credit card is required to hold the room.
- Cancellation Policy: 24 hour advance notice.
- There are occupancy and sales tax which are separate from the room rate. These taxes are subject to change.

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