AMERICAN NUCLEAR SOCIETY:
2008 WINTER MEETING
AND NUCLEAR TECHNOLOGY EXPO

"Nuclear Power—Ready, Steady, Go"

November 9-13, 2008 • Reno, Nevada

Grand Sierra Resort and Casino

PROFESSIONAL DEVELOPMENT WORKSHOP:
"Criticality Accident Source Term"

OFFICIAL PROGRAM

our most sincere ***thanks*** *to the* ***following contributors*** *for their support of the*

2008 ANS Winter Meeting

"Nuclear Power—Ready, Steady, Go"

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AMERICAN NUCLEAR SOCIETY: 2008 WINTER MEETING and Nuclear Technology Expo

"Nuclear Power—Ready, Steady, Go"

November 9-13, 2008 • Reno, Nevada • Grand Sierra Resort and Casino

UPDATED:
November 6, 2008

Come join us on Wednesday, November 12, 2008, for an evening at the Nevada Museum of Art. Additional details are on page 8.

MEETING HIGHLIGHTS

SATURDAY, NOVEMBER 8, 2008

8:00 AM – 5:00 PM	Teachers' Workshop
5:00 PM – 8:00 PM	Professional Divisions Workshop

SUNDAY, NOVEMBER 9, 2008

1:00 PM – 1:30 PM	First-Time Attendees Orientation
4:00 PM – 5:00 PM	Student Assistant Training Session
5:00 PM – 6:00 PM	Mentoring Program
6:00 PM – 7:30 PM	ANS President's Reception in the Nuclear Technology Expo

MONDAY, NOVEMBER 10, 2008

8:00 AM – 10:00 AM	Spouse/Guest Hospitality
8:30 AM – 11:30 AM	2008 ANS Winter Meeting: Plenary Session: "Nuclear Power—Ready, Steady, Go"
9:30 AM – 2:30 PM	Spouse/Guest Tour: "Reno City Tour, Visits to Unique Shopping Boutiques & Lunch"
11:30 AM – 1:00 PM	Attendee Luncheon in the Nuclear Technology Expo
11:30 AM – 6:00 PM	ANS Nuclear Technology Expo
1:00 PM – 2:30 PM	2008 ANS Winter Meeting: ANS President's Special Session: "Getting the Word Out – What You Can Do"
2:30 PM – 4:00 PM	2008 ANS Winter Meeting: Technical Sessions
4:00 PM – 6:00 PM	2008 ANS Winter Meeting: Student Poster Session
4:30 PM – 6:00 PM	Reception in the Nuclear Technology Expo
6:00 PM – 9:00 PM	DOE Workshop: "Potential Nuclear Criticality Safety Evaluation Improvements for Operational Efficiencies"
6:30 PM – 11:30 PM	Evening Event: "Dinner at the National Automobile Museum"

TUESDAY, NOVEMBER 11, 2008

8:00 AM – 10:00 AM	Spouse/Guest Hospitality
8:30 AM – 11:30 AM	2008 ANS Winter Meeting: Technical Sessions
10:00 AM – 2:00 PM	ANS Nuclear Technology Expo
10:00 AM – 2:00 PM	Spouse/Guest Tour: "Day of Pampering"
11:30 AM – 1:00 PM	ANS Honors and Awards Luncheon
1:00 PM – 4:00 PM	2008 ANS Winter Meeting: Technical Sessions
6:00 PM – 8:00 PM	2008 ANS Winter Meeting: Special Panel Session: Research Highlights Using Advanced Fuel Cycle Technologies

WEDNESDAY, NOVEMBER 12, 2008

8:00 AM – 10:00 AM	Spouse/Guest Hospitality
8:30 AM – 11:30 AM	2008 ANS Winter Meeting: Technical Sessions
11:30 AM – 1:00 PM	MSTD Awards Luncheon
1:00 PM – 4:00 PM	2008 ANS Winter Meeting: Technical Sessions
4:00 PM – 6:00 PM	Workshop: Focus on Communications – Enabling Effective Public Advocacy
6:30 PM – 10:30 PM	Evening Event: "Dinner at the Nevada Museum of Art"

THURSDAY, NOVEMBER 13, 2008

8:30 AM – 11:30 AM	2008 ANS Winter Meeting: Technical Sessions
1:00 PM – 4:00 PM	2008 ANS Winter Meeting: Technical Sessions

FRIDAY, NOVEMBER 14, 2008

8:30 AM – 5:00 PM	ANS Professional Development Workshop: "Criticality Accident Source Term"

GENERAL CHAIR:
David J. Hill
Idaho National Laboratory

ASSISTANT GENERAL CHAIR:
Betsy Connell
Idaho National Laboratory

ASSISTANT GENERAL CHAIR:
Teri Ehresman
Idaho National Laboratory

ASSISTANT GENERAL CHAIR:
Harold F. McFarlane
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TECHNICAL PROGRAM CHAIR:
Robert B. Hayes
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David Anderson
Electric Boat Corporation

ASSISTANT TECHNICAL PROGRAM CHAIR:
Bojan Petrovic
Georgia Institute of Technology

FINANCE CHAIR:
John Kotek
Gallatin Group

SPECIAL EVENTS/
SPOUSE HOSPITALITY CHAIR:
Cindie Jensen
Idaho National Laboratory

STUDENT PROGRAM CHAIR:
Nicholas Tsoulfanidis
University of Nevada, Reno

ASSISTANT STUDENT PROGRAM CHAIR:
Bren Phillips
Massachusetts Institute of Technology

MEDIA COORDINATION:
Lou Riepl
Idaho National Laboratory

"Nuclear Power—Ready, Steady, Go"

Grand Sierra Resort and Casino

MEETING INFORMATION

The 2008 ANS Winter Meeting will be held November 9-13, 2008, in Reno, Nevada. There will be a Professional Development Workshop held in conjunction with the 2008 ANS Winter Meeting: "Criticality Accident Source Term," as well as the ANS Nuclear Technology Expo.

ACCOMMODATIONS/ HOTEL INFORMATION

The Grand Sierra Resort and Casino will be the location for the 2008 ANS Winter Meeting, where all activities, technical sessions and governance committee meetings will take place.

ANS NUCLEAR TECHNOLOGY EXPO

The ANS Nuclear Technology Expo will be held in conjunction with the 2008 ANS Winter Meeting in the Nevada Conference and Exhibit Center of the hotel. Please turn to page 36 for additional information.

FIRST-TIME ATTENDEE ORIENTATION

The ANS Membership Committee will offer an orientation session for the first-time ANS meeting attendees. Learn what goes on at national meetings, how the national organization works, and how to get involved at the national and local levels. Whether you are a member or not, student or professional, if this is your first ANS national meeting, the Membership Committee invites you to attend this session, which will be held 1:00–1:30 p.m. on Sunday, November 9, 2008, in the Shasta 1 Room.

STUDENT ASSISTANT PROGRAM

Attendance at the 2008 ANS Winter Meeting is an exciting professional opportunity for college and graduate students. To help defray travel and living expenses, students can sign up to work as session chairs' assistants. Student assistants must attend the student training session on Sunday, November 9, 2008, 4:00–5:00 p.m. in the Nevada 4 Room. Student assistants receive free meeting registration and a copy of the meeting TRANSACTIONS. All students are responsible for paying their own room, tax, and incidentals. ANS student members who register for the meeting and/ or work as session chairs' assistants should pick up a travel assistance form which can be found in the student headquarters room. Student travel assistance is provided through contributions from the ANS professional divisions. The student headquarters room will be located in the Nevada 5 room.

MENTORING PROGRAM

A special mentoring program will be held from 5:00–6:00 p.m. on Sunday, November 9, 2008, in the Shasta 1 Room. ANS members who will serve as mentors hold a variety of positions within the Society, serving on governance committees and working within the divisions. The mentors encompass a wide range of careers and technical specialties, all of which they hope to share with first-time attendees, student members, new members, and those seeking career advancement and networking opportunities.

NOTICE FOR SPEAKERS

All speakers and session chairs must sign in at the "Speakers' Desk," located in the Nevada Foyer of the hotel during registration hours.

A Speakers' Preview Room, the Nevada 12 room of the hotel, will be available during the following hours:

SUNDAY, NOVEMBER 9TH
7:30 a.m. – 3:00 p.m.

MONDAY, NOVEMBER 10TH
7:00 a.m. – 4:00 p.m.

TUESDAY, NOVEMBER 11TH
7:00 a.m. – 4:00 p.m.

WEDNESDAY, NOVEMBER 12TH
7:00 a.m. – 4:00 p.m.

THURSDAY, NOVEMBER 13TH
7:00 a.m. – 12:00 p.m.

Audio/visual equipment will be set up; so, that speakers may preview their presentation material.

CONFERENCE OFFICE

Location: Room 156

ANS SECRETARIAT

Location: Room 163

YOUNG PROFESSIONALS TRAINING SESSION

"Putting it All Together: Keys to Organizing Effective Technical Sessions"

TUESDAY, NOVEMBER 11TH
4:00 p.m. – 6:00 p.m.
Location: Crystal 1

Join the ANS Young Members Group and the North American Young Generation in Nuclear for the first in a planned series of workshops that explore how to make the most of your participation in technical professional meetings and conferences. In this workshop-style short course we will provide an introduction to the process and requirements for organizing a technical session, gain some insight into what makes a session successful from a panel of experienced organizers, and complete an interactive activity that gives you a chance to exercise your technical session planning muscle. This no-cost professional development opportunity is open to all meeting participants.

Organized by the joint planning committee of the 2009 Young Professionals Congress

ANS REGISTRATION

ANS Registration will be located in the Nevada Foyer of the hotel on Saturday, November 8, 2008 through Thursday, November 13, 2008. Meeting and workshop registration, speakers' & session chairs' desk and the message desk will also be located in the ANS registration area.

Meeting registration is required for all attendees and presenters. Badges are required for admission to all technical sessions, workshops and events.

REGISTER NOW!

REGISTRATION HOURS:

SATURDAY, NOVEMBER 8TH
2:00 p.m. – 5:00 p.m.

SUNDAY, NOVEMBER 9TH
11:00 a.m. – 7:00 p.m.

MONDAY, NOVEMBER 10TH
7:30 a.m. – 5:00 p.m.

TUESDAY, NOVEMBER 11TH
7:30 a.m. – 5:00 p.m.

WEDNESDAY, NOVEMBER 12TH
7:30 a.m. – 5:00 p.m.

THURSDAY, NOVEMBER 13TH
7:30 a.m. – 2:00 p.m.

FRIDAY, NOVEMBER 14TH
7:30 a.m. – 9:00 a.m.
(Registration for workshop participants only!)

ANS MEDIA CENTER

MONDAY, NOVEMBER 10TH
7:45 a.m. – 4:00 p.m.

TUESDAY, NOVEMBER 11TH
8:00 a.m. – 4:00 p.m.

WEDNESDAY, NOVEMBER 12TH
8:00 a.m. – 4:00 p.m.

Location: Room 159

WORKSHOP

"Focus on Communications: Enabling Effective Public Advocacy"

WEDNESDAY, NOVEMBER 12TH
4:00 p.m. – 6:00 p.m.
Location: McKinley Room

The ANS Public Information Committee is pleased to offer a no-cost opportunity for ANS members to improve their effectiveness in communicating with the public.

Join us for a relaxed workshop-style short course and reception that will provide an introduction to sound public communications practices and some insights into the science of communications.

Instructors are communications specialists and experts from industry communications programs and media consultant organizations.

Refreshments will be provided.

Organized by Mimi Limbach of Potomac Communications Group on behalf of the Public Information Committee.

SPOUSE/GUEST HOSPITALITY

Spouse/guest hospitality breakfast will be served from 8:00 a.m. – 10:00 a.m., Monday through Wednesday in room #2771. Continental breakfast will be served each morning.

Spouse/guest registration is required for admittance to the spouse/guest hospitality breakfast. Spouse/guest registration includes one ticket to the president's reception and admittance to the spouse/guest breakfast only – it does not include technical sessions or other events. Spouse/guest tours are scheduled. Registration for the tours is separate from the spouse/guest meeting registration.

ATTENTION RUNNERS: ANS FUN RUN

On Tuesday, November 11, 2008, there will be a noncompetitive run starting at 6:00 a.m. from the front entrance of the hotel. Bring your running shoes!

PROFESSIONAL DEVELOPMENT WORKSHOP

PLEASE NOTE: Registration for the workshop is separate from, and in addition to, the meeting registration fee.

"Criticality Accident Source Term"

FRIDAY, NOVEMBER 14, 2008
8:30 a.m. – 5:00 p.m.
Location: Sierra Room

Please turn to page 32 for additional information.

Registration price for the workshop is $450 for ANS members and $550 for non-members.

DOE WORKSHOP

"Potential Nuclear Criticality Safety Evaluation Improvements for Operational Efficiencies"

MONDAY, NOVEMBER 10, 2008
6:00 p.m. – 9:00 p.m.
Location: Crystal 1 & 2

Please turn to page 33 for additional information.

There is no registration fee for this workshop.

CONFERENCE LUNCHEONS

Attendee Luncheon in the Nuclear Technology Expo

MONDAY, NOVEMBER 10TH
11:30 A.M. – 1:00 P.M.
LOCATION: Exhibit Hall

One ticket is included with the full meeting registration. Extra tickets can be purchased at the ANS Registration Desk for $50.

Honors and Awards Luncheon

TUESDAY, NOVEMBER 11TH
11:30 A.M. – 1:00 P.M.
LOCATION: Crystal 1&2 Rooms

Plan to attend the Honors and Awards Luncheon held to recognize the outstanding efforts of the award winners and to celebrate their accomplishments.

Tickets can be purchased at the ANS Registration Desk for $50.

MSTD Awards Luncheon

WEDNESDAY, NOVEMBER 12TH
11:30 A.M. – 1:00 P.M.
LOCATION: Crystal 5

Tickets can be purchased at the ANS Registration Desk for $50.

EVENING EVENTS

PLEASE NOTE:

- ***You must be registered for the meeting to attend evening events.***
- ***The times listed are departure times and return times to/from the hotel. Busses will leave promptly from the South Entrance of the Grand Sierra Resort and Casino.***

ANS President's Reception

SUNDAY, NOVEMBER 9TH
6:00 P.M. – 7:30 P.M.
LOCATION: Exhibit Hall

The ANS President's Reception kicks off the meeting on Sunday, November 9, 2008.

One ticket to the ANS President's Reception is included in the full meeting registration fee.

Additional tickets can be purchased at the ANS Registration Desk for $80.

RENO, NEVADA — Welcome to the Biggest Little City in the World!

With a population of over 211,000, Reno is the largest city in Northern Nevada. It is located in the southern part of Washoe County, nestled on the eastern slope of the Sierra Nevada Mountains in an area called the Truckee Meadows.

Reno is America's Adventure Place! The Truckee Meadows and surrounding area provide unlimited indoor and outdoor recreational activities. Spectacular Lake Tahoe and the largest concentration of ski areas and ski facilities in the world are all within a fifty-mile radius. Biking, camping, hunting, fishing and mountain climbing are all activities Reno residents and visitors enjoy.

Dinner at the National Automobile Museum

MONDAY, NOVEMBER 10TH
6:30 P.M. – 11:30 P.M.

The National Automobile Museum itself provides something few other facilities can – a stunning display of over 200 antique, vintage, classic and special interest automobiles, all in an exciting, dynamic, contemporary location. What a great place for cocktails and a wonderful dinner!

Experience a museum that is more than a museum. Experience cars that are more than cars. Wind your way through more than a century of automotive storytelling, where sometimes intrigue is created by a simple glance and sometimes it lies in the tales of who and where and why.

Antiques, classics, specialty cars and unfathomable one-of-a-kinds all act as portals to the past, as the embodiment of creativity, ingenuity, excess and futility. As vehicles of fascination.

Car lovers. Historians. Anyone. Everyone is fascinated by something they discover.

Tickets can be purchased at the ANS Registration Desk for $40.

Elvis Presley's 1973 Cadillac — it was a birthday present from Elvis' father, Vernon, in 1973. The King ended up giving it away several months later, but even in such a short time you have to wonder what stories this car could tell.

"Cave Rock –

Local legend has it that Nevada's version of the Loch Ness Monster, "Tahoe Tessie," lives beneath Cave Rock, an impressive manmade cave just outside Zephyr Cove on Highway 50."

- Grand Sierra, August/September 2007

Dinner at the Nevada Museum of Art

WEDNESDAY,
NOVEMBER 12TH
6:30 P.M. – 10:30 P.M.

Designed by Will Bruder and inspired by the Black Rock Desert, the Nevada Museum of Art welcomes you! Come explore the 13,482 square feet of expanded gallery space for major exhibitions as well as the street-level and rooftop sculpture galleries. The continually changing feature exhibits showcase national and international artists. The permanent collection consists of over 1,900 works of art that relate to issues of Nevada and the West with an emphasis on the environment. Top all of this off with the astonishing architecture of the museum itself and you will find that the Reynolds Hall is a perfect place to enjoy an intriguing dinner party!

Divided into five focus areas, the permanent collection of the Nevada Museum of Art consists of over 1900 works of art organized around the general themes of land and environment. This thematic, rather than historical or stylistic focus on the environment mirrors the community's growing interest in the protection of the land. Furthermore, the focus provides scope and direction for future acquisitions and exhibitions. Featured Exhibits will include The Altered Landscape, Sierra Nevada/Great Basis Collection, The Historical Collection, The E. L. Wiegand Collection, among others.

The Altered Landscape is the NMA's largest and newest focus collection and features nearly 600 pieces of contemporary landscape photographs.

The collection traces the 1970s New Topographics tradition through its derivations over the past four decades. Much of The Altered Landscape imagery focuses on topography of the new West, including nuclear and military landscapes, mining sites, housing developments, dams, and desert trails. Over 50 artists are represented in the collection including large bodies of work by Robert Adams, Mark Klett, John Pfahl, Frank Gohlke, Peter Goin, Richard Misrach, Patrick Nagatani, Terry Evans, Sharon Stewart, Wanda Hammerbeck, and Robert Dawson. In 1998, a $400,000 endowment for future Altered Landscape acquisitions was established through the generosity of the Carol Franc Buck Foundation.

Tickets can be purchased at the ANS Registration Desk for $50.

SPOUSE/GUEST TOURS

Reno City Tour, Visits to Unique Shopping Boutiques & Lunch

MONDAY, NOVEMBER 10TH
9:30 A.M. – 2:30 P.M.

You will be picked up from Grand Sierra Resort and depart for a scenic narrated drive through the Reno area. Your guide will point out and highlight some of the most popular sites the town has to offer. Then it's off to lunch at one of the charming small restaurants downtown. After lunch, you will have the rest of the afternoon to either go to the new Sierra Summit Shopping Center south of town, or visit a number of individual unique independently owned boutiques in the Reno area.

Tickets can be purchased at the ANS Registration Desk for $65.

Day of Pampering

TUESDAY, NOVEMBER 11TH
10:00 A.M. – 2:00 P.M.

You will be picked up from Grand Sierra Resort and depart for a Day at the Spa. You will receive a Swedish massage for approximately 30 minutes. The light, long kneading strokes are the trademark Swedish method of message. It promotes relaxation and improves circulation, as well as improving joint flexibility. You will also receive a Caviar Hand Ritual. This deluxe Caviar treatment for the hands is the ultimate renewal treatment. An intense 2-step citric acid and exfoliation will rejuvenate, deeply hydrate and help restore skin to a more youthful appearance. Topped off with an essential oil-infused ceramide and vitamin massage and a perfect polish of the nails. Skin is left radiant and glowing. While you are receiving pampering, refreshments will be served. As the day progresses a delightful buffet lunch with be served to all guests.

PLEASE NOTE:
This tour is sold out!

(Asterisks indicate special sessions. Parentheses indicate cosponsorship.)

Special Sessions

*Opening Plenary: Nuclear Power—Ready, Steady, Go, Mon. a.m. (8:30-11:30 a.m.)

*ANS President's Special Session: Getting the Word Out—What You Can Do, Mon. p.m. (1:00-2:30 p.m.)

*Special Panel Session: Research Highlights Using Advanced Fuel Cycle Technologies, Tues. p.m. (6:00-8:00 p.m.)

Accelerator Applications (AAD)

Experiments in Accelerator Applications, Wed. p.m.

Spallation Neutron Source Initial Operational Experience, Thurs. a.m.

Biology and Medicine (BMD)

(Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications—I, Tues. a.m.

(Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications—II, Tues. p.m.

Advances and Issues in Computational Phantom Modeling [in collaboration with the Computational Medical Physics Working Group (CMPWG)], Wed. p.m.

Decommissioning, Decontamination, and Reutilization (DDRD)

Decommissioning and Decontamination of Commercial Nonreactor Facilities–Panel, Tues. a.m.

Planning Decommissioning into the Next Generation of Nuclear Power Stations–Paper/Panel, Tues. p.m.

Decommissioning, Decontamination, and Reutilization: General, Wed. a.m.

Education and Training (ETD)

Focus on Communications—I: Addressing Public Fear in Nuclear Communications–Panel, Tues. a.m.

Focus on Communications—II: Advocate Nuclear in Your Backyard–Panel, Wed. p.m.

Student Design Competition, Tues. p.m.

Educational Programs: Pre-College to Graduate School and Beyond, Wed. a.m.

Cutting Edge Techniques in Education, Training, and Distance Learning, Thurs. a.m.

Environmental Sciences (ESD)

Hydrogen Production and Cogeneration Opportunities for Nuclear Energy, Mon. p.m.

Best of Emergency Preparedness and Response and Robotic and Remote Systems 2008, Wed. a.m.

Fuel Cycle and Waste Management (FCWMD)

The U.S. Advanced Fuel Recycle Research Program: Pace and Direction–Panel, Mon. p.m.

Promoting and Sustaining a Nonproliferation Culture Through Education and Training: Sharing the Experience/Preparing the Future, Tues. a.m.

Future Safeguards and Associated Policies for Enrichment Implementation and Reprocessing Plants—the Present Through 2020, Tues. a.m.

Mixed Oxide Fuel Fabrication Facility: Construction Issues and Programmatic Changes–Panel [in collaboration with the Special Committee on Nuclear Nonproliferation (SCNN)], Tues. p.m.

Fuel Cycle and Waste Management: General—I, Tues. p.m.

Fuel Cycle and Waste Management: General—II, Wed. a.m.

Fuel Cycle and Waste Management: General—III, Wed. p.m.

Fuel Cycle and Waste Management: General—IV, Thurs. a.m.

Advanced Separation Technologies for Spent Nuclear Fuel or Radioactive Waste Treatment, Thurs. a.m.

Fusion Energy (FED)

Fusion Energy: General, Mon. p.m.

Human Factors, Instrumentation, and Controls (HFICD)

Licensing Digital Upgrades—A Status Report–Panel, Tues. p.m.

Human Factors: General, Wed. a.m.

Isotopes and Radiation (IRD)

[(Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications—I, Tues. a.m.]

[(Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications—II, Tues. p.m.]

Isotopes and Radiation: General, Wed. a.m.

Characterization of Neutron Sources, Wed. p.m.

Materials Science and Technology (MSTD)

Materials Science and Technology: General, Tues. a.m.

Reactor Fuels and Materials, Wed. p.m.

(Nuclear Science and Engineering in Nevada, Thurs. p.m.)

Mathematics and Computation (MCD)

Current Issues in Computational Methods–Roundtable, Mon. p.m.

Transport Methods: General, Tues. a.m.

Computational Methods: General, Tues. p.m.

(Advances and Issues in Computational Phantom Modeling, Wed. p.m.)

Nuclear Criticality Safety (NCSD)

Data, Analysis, and Operations for Nuclear Criticality Safety—I, Tues. a.m.

Data, Analysis, and Operations for Nuclear Criticality Safety—II, Wed. p.m.

Data, Analysis, and Operations for Nuclear Criticality Safety—III, Thurs. p.m.

Recent Nuclear Criticality Safety–Related Events and Associated Lessons Learned, Tues. p.m.

Nuclear Criticality Safety Standards Poster Session, Thurs. a.m.

Nuclear Installations Safety (NISD)

Current Issues in Reactor Safety, Wed. a.m.

Highlights of the PSA 2008 International Topical Meeting on Probabilistic Safety Assessment and Analysis–Panel, Wed. a.m.

Innovations in Probabilistic Risk Assessment, Wed. p.m.

Emerging Issues in Nuclear Reactor Safety, Thurs. a.m.

Nuclear Installations Safety: General, Thurs. p.m.

Operations and Power (OPD)

Highlights of the Utility Working Conference–Panel, Mon. p.m.

Nuclear Knowledge Management—Our Way to the Future–Panel, Tues. a.m.

(Licensing Digital Upgrades—A Status Report–Panel, Tues. p.m.)

Operations and Power: General, Tues. p.m.

Research Reactor: General, Tues. p.m.

Application of International Codes and Standards in New Nuclear Plants—Harmonization Versus Reconciliation–Panel, Tues. p.m.

Advanced Reactors, Wed. a.m.

Nuclear Energy Prospects for Developing Nations–Panel, Wed. a.m.

Commercial Grade Dedication Process for Digital Instrumentation and Control (I&C)–Panel, Wed. p.m.

ANS 53.1: Safety Design Process and Modular Helium-Cooled Reactors—A New Standard for the Future–Panel, Thurs. a.m.

Radiation Protection and Shielding (RPSD)

Current Topics in Radiation Protection and Shielding–Roundtable, Mon. p.m.

Nuclear Research and Education Developments in Nevada–Panel, Mon. p.m.

Best of RPSD 2008—I, Tues. a.m.

Best of RPSD 2008—II, Tues. p.m.

Radiation Protection and Shielding: General, Wed. a.m.

Recent Work with Gamma Ray Buildup Factors, Wed. a.m.

Dose Conversion Coefficients, Wed. a.m.

Detection Technologies for Homeland Security Applications, Wed. a.m.

Radiation Protection and Shielding (RPSD) (continued)

Attila–Tutorial, Wed. p.m.

Introductory Monte Carlo–Tutorial, Thurs. a.m.

Nuclear Science and Engineering in Nevada, Thurs. p.m.

Reactor Physics (RPD)

Use of Coupled Three-Dimensional Transport Theory and Depletion Methods in Reactor Physics, Mon. p.m.

International Collaboration in Nuclear Energy Technology Education: Fulfilling the Need for Nuclear Engineers–Panel, Mon. p.m.

Reactor Analysis Methods—I, Tues. a.m.

Reactor Analysis Methods—II, Wed. a.m.

Reactor Physics Design, Validation, and Operating Experience, Tues. p.m.

Boiling Water Reactor Stability, Wed. p.m.

Reactor Physics: General, Thurs. a.m.

Robotics and Remote Systems (RRSD)

Robotics and Remote Systems Research and Deployment, Tues. a.m.

(Best of Emergency Preparedness and Response and Robotic and Remote Systems 2008, Wed. a.m.)

Thermal Hydraulics (THD)

Young Professional Thermal-Hydraulics Research Competition, Mon. p.m.

General Thermal Hydraulics, Tues. a.m.

Computational Thermal Hydraulics, Tues. p.m.

General Two-Phase Flow, Wed. a.m.

Thermal Hydraulics of High-Temperature Gas-Cooled Reactor Technology, Wed. p.m.

Young Members Group (YMG)

(Data, Analysis, and Operations for Nuclear Criticality Safety—I, Tues. a.m.)

(Data, Analysis, and Operations for Nuclear Criticality Safety—II, Wed. p.m.)

(Data, Analysis, and Operations for Nuclear Criticality Safety—III, Thurs. p.m.)

(Focus on Communications—I: Addressing Public Fear in Nuclear Communications–Panel, Tues. a.m.)

(Focus on Communications—II: Advocate Nuclear in Your Backyard–Panel, Wed. p.m.)

(Recent Nuclear Criticality Safety–Related Events and Associated Lessons Learned, Tues. p.m.)

(Nuclear Criticality Safety Standards Poster Session, Thurs. a.m.)

ROOM	MONDAY, NOVEMBER 10, 2008			TUESDAY, NOVEMBER 11, 2008		
	8:30 AM – 11:30 AM	1:00 PM – 2:30 PM	2:30 PM – 4:00 PM	8:30 AM – 11:30 AM	1:00 PM - 4:00 PM	6:00 PM – 8:00 PM
Summit Pavilion	Opening Plenary: Nuclear Power—Ready, Steady, Go	ANS President's Special Session: Getting the Word Out—What You Can Do				
Nevada 1			Hydrogen Production and Cogeneration Opportunities for Nuclear Energy	Transport Methods: General	Computational Methods: General	
Nevada 2 & 3			Use of Coupled Three-Dimensional Transport Theory and Depletion Methods in Reactor Physics	Reactor Analysis Methods—I	Reactor Physics Design, Validation, and Operating Experience	
Nevada 4			Highlights of the Utility Working Conference–Panel	Nuclear Knowledge Management—Our Way to the Future–Panel	Operations and Power: General --- Research Reactor: General	
Nevada 6			Current Topics in Radiation Protection and Shielding–Roundtable	Best of RPSD 2008—I	Best of RPSD 2008—II	
Nevada 7			Young Professional Thermal-Hydraulics Research Competition	General Thermal Hydraulics	Computational Thermal Hydraulics	
Nevada 11			Current Issues in Computational Methods–Roundtable	Robotics and Remote Systems: Research and Deployment	Licensing Digital Upgrades—A Status Report–Panel	
McKinley			The U.S. Advanced Fuel Recycle Research Program: Pace and Direction–Panel	Data, Analysis, and Operations for Nuclear Criticality Safety—I	Recent Nuclear Criticality Safety–Related Events and Associated Lessons Learned	
Teton 1			International Collaboration in Nuclear Energy Technology Education: Fulfilling the Need for Nuclear Engineers–Panel	Materials Science and Technology: General	Mixed Oxide Fuel Fabrication Facility: Construction Issues and Programmatic Changes–Panel	
Sierra 1			Fusion Energy: General	Promoting and Sustaining a Nonproliferation Culture Through Education and Training: Sharing the Experience/Preparing the Future --- Future Safeguards and Associated Policies for Enrichment Implementation and Reprocessing Plants—The Present Through 2020	Fuel Cycle and Waste Management: General—I	
Sierra 2			Nuclear Research and Education Developments in Nevada–Panel	(Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications—I	(Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications—II	
Shasta 1				Focus on Communications—I: Addressing Public Fear in Nuclear Communications–Panel	Application of International Codes and Standards in New Nuclear Plants—Harmonization versus Reconciliation–Panel	
Cascade 2				Decommissioning and Decontamination of Commercial Nonreactor Facilities–Panel	Planning Decommissioning into the Next Generation of Nuclear Power Stations–Paper/Panel	
Ruby 1 & 2					Student Design Competition	
Crystal 3, 4 & 5						Special Panel Session: Research Highlights Using Advanced Fuel Cycle Technologies

CONDENSED SCHEDULE

ROOM	WEDNESDAY, NOVEMBER 12, 2008			THURSDAY, NOVEMBER 13, 2008	
	8:30 AM – 11:30 AM	11:30 AM – 1:00 PM	1:00 PM – 4:00 PM	8:30 AM – 11:30 AM	1:00 PM – 4:00 PM
Nevada 1	Current Issues in Reactor Safety		Innovations in Probabilistic Risk Assessment	Emerging Issues in Nuclear Reactor Safety	Nuclear Installations Safety: General
Nevada 2 & 3	Reactor Analysis Methods—II		Boiling Water Reactor Stability	Reactor Physics: General	
Nevada 4	Advanced Reactors		Focus on Communications—II: Advocate Nuclear in Your Backyard–Panel	ANS 53.1: Safety Design Process and Modular Helium-Cooled Reactors—A New Standard for the Future–Panel	
Nevada 6	Radiation Protection and Shielding: General --- Recent Work with Gamma Ray Buildup Factors		Attila–Tutorial	Introductory Monte Carlo–Tutorial	Nuclear Science and Engineering in Nevada
Nevada 7	General Two-Phase Flow		Thermal Hydraulics of High-Temperature Gas-Cooled Reactor Technology	Cutting Edge Techniques in Education, Training, and Distance Learning	
Nevada 11	Human Factors: General		Reactor Fuels and Materials		
McKinley	Best of Emergency Preparedness and Response and Robotic and Remote Systems 2008		Data, Analysis, and Operations for Nuclear Criticality Safety—II	Nuclear Criticality Safety Standards Poster Session	Data, Analysis, and Operations for Nuclear Criticality Safety—III
Teton 1	Nuclear Energy Prospects for Developing Nations–Panel		Characterization of Neutron Sources		
Sierra 1	Fuel Cycle and Waste Management: General—II		Fuel Cycle and Waste Management: General—III	Fuel Cycle and Waste Management: General—IV --- Advanced Separation Technologies for Spent Nuclear Fuel or Radioactive Waste Treatment	
Sierra 2	Decommissioning, Decontamination, and Reutilization: General --- Isotopes and Radiation: General		Advances and Issues in Computational Phantom Modeling		
Shasta 1	Education Programs: Pre-College to Graduate School and Beyond		Commercial Grade Dedication Process for Digital Instrumentation and Control (I&C)–Panel		
Cascade 2	Dose Conversion Coefficients --- Detection Technologies for Homeland Security Applications		Experiments in Accelerator Applications	Spallation Neutron Source Initial Operational Experience	
Crystal 4		Highlights of the PSA 2008 International Topical Meeting on Probabilistic Safety Assessment and Analysis–Panel			

MONDAY • NOVEMBER 10, 2008

7:30 AM – 5:00 PM	**MEETING REGISTRATION**
8:00 AM – 10:00 AM	**SPOUSE/GUEST HOSPITALITY**
8:30 AM – 11:30 AM	**2008 ANS WINTER MEETING: OPENING PLENARY** "Nuclear Power—Ready, Steady, Go"
9:30 AM – 2:30 PM	**SPOUSE/GUEST TOUR** "Reno City Tour, Visits to Unique Shopping Boutiques & Lunch"
11:30 AM – 1:00 PM	**ATTENDEE LUNCHEON IN THE NUCLEAR TECHNOLOGY EXPO**
11:30 AM – 6:00 PM	**ANS NUCLEAR TECHNOLOGY EXPO**
1:00 PM – 2:30 PM	**2008 ANS WINTER MEETING:** **ANS PRESIDENT'S SPECIAL SESSION** "Getting the Word Out—What You Can Do"
2:30 PM – 4:00 PM	**2008 ANS WINTER MEETING: TECHNICAL SESSIONS** • Hydrogen Production and Cogeneration Opportunities for Nuclear Energy • Current Issues in Computational Methods–Roundtable • The U.S. Advanced Fuel Recycle Research Program: Pace and Direction–Panel • Highlights of the Utility Working Conference–Panel • Use of Coupled Three-Dimensional Transport Theory and Depletion Methods in Reactor Physics • Current Topics in Radiation Protection and Shielding–Roundtable • Young Professional Thermal-Hydraulics Research Competition • International Collaboration in Nuclear Energy Technology Education: Fulfilling the Need for Nuclear Engineers–Panel • Fusion Energy: General • Nuclear Research and Education Developments in Nevada–Panel
4:00 PM – 6:00 PM	**2008 ANS WINTER MEETING: STUDENT POSTER SESSION**
4:30 PM – 6:00 PM	**RECEPTION IN THE NUCLEAR TECHNOLOGY EXPO**
6:30 PM – 11:30 PM	**EVENING EVENT:** "Dinner at the National Automobile Museum"

MONDAY, NOVEMBER 10, 2008 • 8:30 A.M.

Opening Plenary: Nuclear Power—Ready, Steady, Go. *Chair:* David J. Hill *(INL)*

Summit Pavilion
8:30 a.m.

This plenary session will focus on the theme "Ready, Steady, Go" and will give a broad perspective on the opportunities and challenges for nuclear energy expansion.

WELCOMING REMARKS:
William E. Burchill *(President, ANS*

SPEAKERS:
- Kristine Svinicki *(Commissioner, Nuclear Regulatory Commission)*
- Jacques Besnainou *(President of AREVA North America)*
- Lisa Price *(President and CEO of GE's Global Nuclear Fuel)*
- Donna Jacobs *(Senior Vice President, Planning Development & Oversight, Entergy Corporation)*
- Joe Belechak *(Senior Vice President, Nuclear Fuel, Westinghouse)*

MONDAY, NOVEMBER 10, 2008 • 1:00 P.M.

ANS President's Special Session: Getting the Word Out—What You Can Do. *Chair:* William E. Burchill *(President, ANS)*

Summit Pavilion
1:00 p.m.

"Getting the Word Out" is an important activity in the nuclear renaissance to support this meeting's theme "Nuclear Power—Ready, Steady, Go." This special session, "Getting the Word Out—What You Can Do," will describe what you can do as an ANS individual member. Speakers will provide case examples, tips on how to communicate with the public and policy makers, and a roadmap of available resources. This will be a "high energy" session that will be fun for everyone who is there.

SPEAKERS:
- Gwyneth Cravens *(Journalist, Author)*
- Lisa Stiles *(President, International Youth Nuclear Congress, Dominion Nuclear)*
- Candace Davison *(Chair, ANS Public Information Committee)*

MONDAY, NOVEMBER 10, 2008 • 2:30 P.M.

Hydrogen Production and Cogeneration Opportunities for Nuclear Energy, sponsored by ESD. *Chair:* Dan Meneley *(Retired-AECL)*

Nevada 1
2:30 p.m.

Technology, Process, and Plant-Level Issues Associated with Integration of Nuclear Cogeneration Plants and Biorefineries, Sherrell R. Greene, Abhijeet P. Borole, George F. Flanagan *(ORNL)*

2:55 p.m.

Simulation of the Sulfuric Acid System for the Test Loop Installed in KAERI Facility, J. H. Kim, S. D. Hong, Y. W. Kim *(KAERI)*

3:20 p.m.

System Modeling of Tritium Migration in the NGNP, Hirofumi Ohashi *(Japan Atomic Energy Agency)*, Steven R. Sherman *(SRNL)*

3:45 p.m.

Large-Scale Hydrogen Production Using a Fusion Torch Process, George H. Miley *(Univ of Illinois)*, William C. Gough *(Foundation for M-B Research)*, Hugo Leon *(Univ of Illinois)*

Current Issues in Computational Methods–Roundtable, sponsored by MCD. *Session Organizer:* Todd S. Palmer *(Oregon State Univ)*. *Chair:* Todd S. Palmer

Nevada 11
2:30 p.m.

Dr. Frank Graziani *(LLNL)*, author of "Granlibakken: The 'Computational Methods in Transport' Workshops—Past, Present and Future," will describe his efforts over the past six years to initiate and sustain technical exchanges between transport practitioners from a variety of disciplines in engineering and physics. The 2008 CMT Workshop took place September 6-11 in Lake Tahoe, California and focused on petascale transport simulations.

The U.S. Advanced Fuel Recycle Research Program: Pace and Direction–Panel, sponsored by FCWMD. *Session Organizers:* Herbert Feinroth *(Gamma Eng)*, Alan Waltar *(PNL)*. *Cochairs:* Herbert Feinroth, Alan Waltar

McKinley
2:30 p.m.

In a recent report the U.S. National Academy of Sciences questioned the pace and direction of the current U.S. Department of Energy (DOE) research and development program aimed at recycle and actinide burning of light water reactor spent fuel. The main report urged DOE to drop work on near commercial size spent fuel separations facilities, at least until more is learned about which technical options best meet the future needs of the country.

Several of the Academy reviewers, in a separate appendix, recommended the use of thermal reactors (e.g., commercial water reactors) for burning of actinides, in lieu of developing new fast spectrum reactors for this purpose. Thus, there seems to be a number of diverse and conflicting views as to how, and when, to begin the process of commercial recycle of spent fuel in this country. This panel session has been organized to present the rationale for opposing views on this subject and to begin to build a consensus on what approach is in the national interest, both as to pace and as to technology. Experts from academia, industry, and the government and its national labs will be invited to make presentations and to debate the subject.

PANELISTS:
- Mujid Kazimi *(MIT)*
- Eric Loewen *(GE-Hitachi)*
- Paul Lisowski *(DOE/NE)*
- David Hill *(INL)*

Highlights of the Utility Working Conference–Panel, sponsored by OPD. *Chair:* Sasan Etemadi *(SCE)*

Nevada 4
2:30 p.m.
This panel session will present a summary of the highlights of the recent Utility Working Conference. The theme of this year's meeting was "Knowledge Transfer: The Key to Continuing Operations Excellence." Conference tracks included Engineering, Executive, Nuclear Asset Management, Nuclear Supply Chain, Operations, Oversight/Quality Assurance, Performance Improvement, Regulatory Relations, Risk Management, and Work Management.

PANELISTS:
- Donald Hoffman *(EXCEL Services)*
- George Attarian *(Progress Energy Carolinas)*
- Roman Estrada *(NPPD)*

Use of Coupled Three-Dimensional Transport Theory and Depletion Methods in Reactor Physics, sponsored by RPD. *Session Organizer:* Mark DeHart *(ORNL)*. *Chair:* Benoit Forget *(MIT)*

Nevada 2 and 3
2:30 p.m.
Generic Monte Carlo Depletion with VESTA, Wim Haeck, Eric Létang *(IRSN)*, Yoann Calzavara, Stéphane Fuard *(ILL)*

2:55 p.m.
Extending MCODE Capabilities for Innovative Design Studies at the MITR, Paul K. Romano, Benoit Forget, Thomas H. Newton, Jr. *(MIT)*

3:20 p.m.
Depletion Methodology for the Whole Core Transport Code DeCART, Brendan Kochunas *(Univ of California, Berkeley)*, T. J. Downar *(Univ of Michigan)*, T. Taiwo, T. K. Kim *(ANL)*

3:45 p.m.
Issues in Three-Dimensional Depletion Analysis of Measured Data Near the End of a Fuel Rod, Mark D. DeHart, Ian C. Gauld *(ORNL)*, Kenya Suyama *(Japan Atomic Energy Agency)*

Current Topics in Radiation Protection and Shielding–Roundtable, sponsored by RPSD. *Session Organizer:* Andrew D. Hodgdon *(AREVA)*. *Chair:* Glenn E. Sjoden *(Univ of Florida)*

Nevada 6
2:30 p.m.
Everyone is invited to give a short presentation on any Radiation Protection and Shielding topic of interest. Ten-minute time slots will be allotted on a first-come/first-serve basis. The initial topic will be "What we would like to see in Monte Carlo codes." This is meant to be fast-paced, informal, and fun.

Young Professional Thermal-Hydraulics Research Competition, sponsored by THD. *Chair:* Xiaodong Sun *(Ohio State)*

Nevada 7
2:30 p.m.
The Temporal Evolution of Nanoparticle Suspensions, S. D. Fortenberry, E. E. Dominguez-Ontiveros, D. R. Huitink, Y. A. Hassan *(Texas A&M)*

3:00 p.m.
Experimental Investigation of Quenching of a Small Sphere in Dilute Nanofluids, H. Kim, J. Buongiorno, L. W. Hu, T. McKrell, G. DeWitt *(MIT)*

3:30 p.m.
Extension of RC Circuit Analogy for Natural Convection, Vaibhav Khane, Shoaib Usman *(Missouri Univ of Science & Technol)*

International Collaboration in Nuclear Energy Technology Education: Fulfilling the Need for Nuclear Engineers–Panel, sponsored by RPD. *Session Organizers:* Walter Sadowski *(Univ of Maryland)*, Pavel Tsvetkov, Jean Ragusa *(Texas A&M)*, Ivan Maldonado *(Univ of Tennessee)*. *Chair:* Pavel Tsvetkov

Teton 1
2:30 p.m.
This panel stems from past and ongoing U.S.-Russia collaborations in advanced energy technology and nuclear engineering education that could lead to a template for expanded collaborations with other countries. A common thread and growing problem of global proportions is that of fulfilling the need for nuclear engineers. Academic, industrial, international, and governmental perspectives on the needs for engineers in the nuclear industry will be provided by the various panel experts (short talks) to stimulate lively dialogue and discussions by all attendees.

PANELISTS:
- Roald Sagdeev *(Univ of Maryland)*
- Raymond Juzaitis *(Texas A&M)*
- Lee Dodds *(Univ of Tennessee)*
- Mikhail Strikhanov *(MEPhI)*
- Nikolay Narozhny *(MEPhI)*
- John Gutteridge *(NRC)*
- Eduard Kryuchkov *(MEPhI)*
- Carol L. Berrigan *(NEI)*
- Dominique Greneche *(AREVA NC / DTRI)*

Fusion Energy: General, sponsored by FED. *Session Organizer:* James Blanchard *(Univ of Wisconsin)*. *Chair:* Paul Wilson *(Univ of Wisconsin)*

Sierra 1
2:30 p.m.
The Case for Tritium-lean ICF Target Fusion, George H. Miley *(Univ of Illinois)*, Heinrich Hora *(Univ of New South Wales)*, Fred Osman *(Univ of Western Sydney)*

2:55 p.m.
Computational Study of Multi-electron Ionization in Low-charged Heavy Ion-atom Collisions, Linchun Wu *(HyperV Technologies Corp.)*, George H. Miley, Hiromu Momota *(Univ of Illinois)*

3:20 p.m.
Development of Tritium and Helium Inventory Code for Tritium Storage and Delivery System, Sangchul Lee, Daesik Yook, KunJai Lee *(KAIST–Korea)*, Kyu-min Song, Soon hwan Shon *(KEPRI)*

Nuclear Research and Education Developments in Nevada–Panel, sponsored by RPSD. *Session Organizers:* Denis Beller *(UNLV)*, Steve Curtis *(Alphatech, Inc. of Nevada)*. *Cochairs:* Denis Beller, Steve Curtis

Sierra 2
2:30 p.m.
The nuclear energy renaissance and developing technology for recycling of used nuclear fuel is increasing interest in nuclear energy, science, and technology. Simultaneously, requirements for scientists and engineers educated to support national nuclear security and defense programs are also increasing. Unique facilities and capabilities in Nevada—which include the National Nuclear Security Administration's Nevada Test Site, the U.S. Department of Energy's Yucca Mountain Project, the U.S. Environmental Protection Agency's Radiation and Indoor Measurements Laboratory, the University of Nevada, Las Vegas (UNLV), Varian, and others—are being integrated in several current and developing programs and projects that will advance nuclear engineering, science, and technology education and research. In this panel, participants and leaders in this rapidly developing arena will describe recent, current, and planned activities.

PANELISTS:
- Nuclear-Related Degree and Research Programs at UNLV, Denis Beller *(UNLV)*
- Nuclear Industry Education Initiative (virtual College of Engineering), Anthony Hechanova *(UNLV)*
- Nevada Test Site, Chris Hagen *(NSTec)*
- Remote Sensing Laboratory, Emergency Response and National Security, Carson Riland *(NSTec)*
- Nuclear Science and Engineering for License Activities, Russ Dyer *(Yucca Mountain Project)*
- MegaVoltage Cargo Inspection System, Zane Wilson *(Varian Security and Inspections Products)*
- Radiation Measurements Lab, Wesley Boyd *(EPA Radiation and Indoor Environments Lab)*
- Critical Experiments Facility, Steven Clement *(LANL)*

TUESDAY • NOVEMBER 11, 2008

7:30 AM – 5:00 PM	**MEETING REGISTRATION**
8:00 AM – 10:00 AM	**SPOUSE/GUEST HOSPITALITY**
8:30 AM – 11:30 AM	**2008 ANS WINTER MEETING: TECHNICAL SESSIONS** • Transport Methods: General • Robotics and Remote Systems: Research and Deployment • Data, Analysis, and Operations for Nuclear Criticality Safety—I • Nuclear Knowledge Management—Our Way to the Future–Panel • Reactor Analysis Methods—I • Best of RPSD 2008—I • General Thermal Hydraulics • Materials Science and Technology: General • Promoting and Sustaining a Nonproliferation Culture Through Education and Training: Sharing the Experience/Preparing the Future • Future Safeguards and Associated Policies for Enrichment Implementation and Reprocessing Plants–the Present Through 2020 • (Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications—I • Focus on Communications—I: Addressing Public Fear in Nuclear Communications–Panel • Decommissioning and Decontamination of Commercial Nonreactor Facilities–Panel
10:00 AM – 2:00 PM	**ANS NUCLEAR TECHNOLOGY EXPO**
10:00 AM – 2:00 PM	**SPOUSE/GUEST TOUR** "Day of Pampering"
11:30 AM – 1:00 PM	**ANS HONORS AND AWARDS LUNCHEON**
1:00 PM – 4:00 PM	**2008 ANS WINTER MEETING: TECHNICAL SESSIONS** • Computational Methods: General • Licensing Digital Upgrades—A Status Report–Panel • Recent Nuclear Criticality Safety-Related Events and Associated Lessons Learned • Operations and Power: General • Research Reactor: General • Reactor Physics Design, Validation, and Operating Experience • Best of RPSD 2008—II • Computational Thermal Hydraulics • Mixed Oxide Fuel Fabrication Facility: Construction Issues and Programmatic Changes–Panel • Fuel Cycle and Waste Management: General—I • (Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications—II • Application of International Codes and Standards in New Nuclear Plants—Harmonization versus Reconciliation–Panel • Planning Decommissioning into the Next Generation of Nuclear Power Stations–Paper/Panel • Student Design Competition
6:00 PM – 8:00 PM	**2008 ANS WINTER MEETING: SPECIAL PANEL SESSION** "Research Highlights Using Advanced Fuel Cycle Technologies"

TUESDAY, NOVEMBER 11, 2008 • 8:30 A.M.

Transport Methods: General, sponsored by MCD. *Session Organizer:* Todd Urbatsch *(LANL)*. *Chair:* Jean Ragusa *(Texas A&M)*

Nevada 1
8:30 a.m.
Properties of the S_n-Equivalent Integral Transport Operator and the Iterative Acceleration of Neutral Particle Transport Methods in 2D Geometry, Massimiliano Rosa *(LANL)*, invited, Mark Mills Award Winner

8:55 a.m.
Time-Dependent, One-Speed Integral Transport for One-Dimensional Finite Slab Geometry, C. S. Aplin, D. L. Henderson *(Univ of Wisconsin, Madison)*

9:20 a.m.
An Algorithm for Multi-Mesh and Multi-Irregularity from Adaptive Mesh Refinement with FEM, Yaqi Wang, Jean C. Ragusa *(Texas A&M)*

9:45 a.m.
Linearized Stability Analysis of Two Time Discretizations for the Compton-Scattering Fokker-Planck Equation, Jeffery D. Densmore, James S. Warsa, Robert B. Lowrie *(LANL)*, Jim E. Morel *(Texas A&M)*

10:10 a.m.
A New Look at Nonlinear Acceleration, D. A. Knoll, H. Park *(INL)*, K. S. Smith *(Studsvik Scandpower)*

10:35 a.m.
Accelerated Quasi-Static Method for Neutron Kinetics, Paolo Picca *(politecnico di torino)*, Barry D. Ganapol, Roberto Furfaro *(Univ of Arizona)*

11:00 a.m.
Using Wielandt's Method to Eliminate Confidence Interval Underprediction Bias in MCNP5 Criticality Calculations, Brian C. Kiedrowski *(Univ of Wisconsin-Madison)*, Forrest B. Brown *(LANL)*

Robotics and Remote Systems: Research and Deployment, sponsored by RRSD. *Session Organizer:* Carl Crane *(Univ of Florida)*. *Chair:* Albert Sturm *(Par Systems)*

Nevada 11
8:30 a.m.
Continuous Shock Monitoring for Damage Detection of Remote Systems, Brian Hatchell, Fred Mauss, Jim Skorpik, Kurt Silvers *(PNNL)*

8:55 a.m.
Online Inspection of Sensors in Nuclear Power Plants, Yukinori Hirose, Tetsuo Tamaoki, Toshifumi Hayashi, Mitsuhiro Enomoto, Tatsuyuki Maekawa, Tsuyoshi Masugi *(TOSHIBA Corp)*

9:20 a.m.
Remote Operations for Waste Package Closure, C. V. Shelton-Davis, D. P. Pace, K. M. Croft *(INL)*, M. E. Barker *(PaR Systems, Inc.)*

9:45 a.m.
Automation Simulation at the Y-12 National Security Complex, Reid Kress *(Natl Security Technol Center)*

10:10 a.m.
Digital Process Management of Advanced Burner Test Reactor, Young K. Park *(PHILOSOPHIA)*, Kune Y. Suh *(PHILOSOPHIA /Seoul Natl Univ)*, James J. Sienicki *(ANL)*

10:35 a.m.
Control of Planar Compliant Mechanisms with Adjustable Springs, Carl D. Crane III, Hyun K. Jung *(Univ of Florida)*

11:00 a.m.
Extrinsic Sensors and External Signal Generator for Advanced Transparency Framework, Soichiro Katsumura, Takuya Kitabata, Tsutomu Irie, Mitsutoshi Suzuki, Yu Hashimoto *(Japan Atomic Energy Agency)*, Keji Kato *(Ema Model Planning Ltd)*

Data, Analysis, and Operations for Nuclear Criticality Safety—I, sponsored by NCSD; cosponsored by YMG. *Session Organizer:* Nichole Ellis *(Ellis Nuclear Eng)*. *Chair:* John Darrell Bess *(INL)*

McKinley
8:30 a.m.
Absorption of Water into Uranium Powder and Implications to Nuclear Criticality Safety, J. J. Lichtenwalter *(B&W Y-12 Technical Svc)*

8:55 a.m.
Updated Plutonium-Solution Temperature-Coefficient Calculations, Drew E. Kornreich *(LANL)*

9:20 a.m.
Revisiting the "Pruvost k-Infinity Curves," Drew E. Kornreich, Arthur R. Pan, Douglas G. Bowen, Norman L. Pruvost *(LANL)*

9:45 a.m.
Criticality Safety Regulation: The Pendulum Has Swung Too Far, Thomas P. McLaughlin *(Consultant)*

10:10 a.m.
Subcritical Measurements of a Plutonium Sphere with Various Reflectors, Jesson Hutchinson *(LANL)*

10:35 a.m.
A Dynamic Simulation Tool for Critical Assemblies Using the Coupled Neutronic-Thermoelastic Method, Travis J. Grove, Robert H. Kimpland, William L. Myers *(LANL)*

11:00 a.m.
TRACE Analysis of Maanshan PWR for Turbine Trip Test, Jong-Rong Wang, Hao-Tzu Lin *(Nuclear Engineering Group)*, Yi-Hsiang Cheng, Wei-Chen Wang, Chunkuan Shih *(Natl Tsing Hua Univ)*

Nuclear Knowledge Management—Our Way to the Future–Panel, sponsored by OPD. *Chair:* Don Hoffman *(EXCEL Services)*

Nevada 4
8:30 a.m.
This session will present the fundamentals of nuclear knowledge management (NKM). NKM is an integrated "meta-process" composed of NKM fundamentals, principles for establishing a body of knowledge, and management of changes/improvements through specific NKM practices. Best practice NKM applications through smart portal design and deployment of "expert systems" will also be discussed. The session will consist of an introductory presentation, followed by presentations from panel members with expertise in a particular area. Panel members will represent key subprocesses of NKM including performance management, human resources/workforce, information technology, meta-process integration methods, and new nuclear (a key customer of NKM).

PANELISTS:
- Donald Hoffman *(EXCEL Services)*
- Amy Barreiro *(EXCEL Services)*
- Mike Stout *(Enterprise Informatics)*
- Bill Parkinson *(Consultant)*
- Gerald Lewis *(STPNOC)*

Reactor Analysis Methods—I, sponsored by RPD. *Session Organizer:* Bojan Petrovic *(Georgia Tech)*. *Chair:* Deokjung Lee *(Studsvik Scandpower)*

Nevada 2 and 3
8:30 a.m.
Evaluation of the Background Cross Section for Heterogeneous and Complicated Geometry by the Enhanced Neutron Current Method, Akio Yamamoto *(Nagoya Univ)*

8:55 a.m.
Development of a Resonance Calculation Method Based on Discrete Treatment of Energy Ranges, Hiroki Koike, Akio Yamamoto, Yoshihiro Yamane *(Nagoya Univ)*

9:20 a.m.
Thermal Feedback Transient Analysis of a Pebble Fuel Based on the Two-Temperature Homogenized Model, Nam Zin Cho, Hui Yu, Jong Woon Kim *(KAIST)*

9:45 a.m.
CASMO-5 Solutions for the Two-Dimensional C5G7 MOX Benchmark Problem, Deokjung Lee, Joel Rhodes, Kord Smith *(Studsvik Scandpower, Inc.)*

10:10 a.m.
Validation of SCALE and the TRITON Depletion Sequence for Gas-Cooled Reactor Analysis, Mark D. DeHart *(ORNL)*, Megan L. Pritchard *(Texas A&M)*

10:35 a.m.
Cross Section Condensation and Homogenization Analysis for a Stylized CANDU 37-Element Lattice Cell Core, Justin Pounders, Farzad Rahnema *(Georgia Tech)*, Dumitru Serghiuta *(Canadian Nuclear Safety Commission)*

11:00 a.m.
Neutron Transport in Double Heterogeneous Media of High Temperature Reactors, Godfree Gert, Tatjana Jevremovic *(Purdue Univ)*

Best of RPSD 2008—I, sponsored by RPSD. *Session Organizer:* Robert Hayes *(NSTech)*. *Chair:* John S. Hendricks *(LANL)*. All invited.

Nevada 6
8:30 a.m.
Current State of Commercial Radiation Detection Equipment for Homeland Security Applications, Raymond T. Klann *(ANL)*, Jason Shergur *(LANL)*, Gary Mattesich *(ANL)*

8:50 a.m.
Measurements of High Energy Neutron Spectra with a Bonner Sphere Extension (BSE) Measurement System, E. Burgett, N. Hertel *(Georgia Tech)*, R. Howell *(UT M.D. Anderson Cancer Center)*

9:10 a.m.
Automated Variance Reduction Applied to Nuclear Well-Logging Problems, John C. Wagner, Douglas E. Peplow, Thomas M. Evans *(ORNL)*

9:30 a.m.
CAD Import for MONK and MCBEND by Converting to Tetrahedral Mesh Format, Thomas Barker *(Univ of Birmingham)*, Adam Bird, Roger Thetford *(Serco Assurance)*, Andrew Cooper *(Sellafield Ltd)*

9:50 a.m.
Continuous Air Monitor Algorithm Development, Robert B. Hayes *(NSTech)*

10:10 a.m.
Recent Developments to the Monte Carlo Code MCBEND, P. Cowan, G. Dobson, G. A. Wright *(Serco)*, A. Cooper *(Sellafield Ltd)*

10:30 a.m.
Assessment of Implanted Helical Gold Markers for Patients Receiving Proton Radiotherapy for Prostate Cancer, Annelise Giebeler, Jonas Fontenot, Peter Balter, George Ciangaru, Ronald Zhu, Wayne Newhauser *(Univ of Texas M.D. Anderson Cancer Center)*

10:50 a.m.
Neutron Production in a Double Scatterer Passive System, Angélica Pérez-Andújar, Paul M. DeLuca Jr. *(Univ of Wisconsin-Madison)*, Wayne D. Newhauser *(Univ of Texas M.D. Anderson Cancer Center)*

General Thermal Hydraulics, sponsored by THD. *Chair:* Kurshad Muftuoglu *(GE-Hitachi Nuclear Energy)*

Nevada 7
8:30 a.m.
A Novel Self-calibration Method for 3D Velocity Measurements by Means of Stereo-PTV, Yan Liu, C. E. Estrada-Perez, E. E. Dominguez-Ontiveros, Y. A. Hassan *(Texas A&M)*, S. P. Dong *(China Petroleum Univ)*

9:00 a.m.
Experimental Observations of Flow Structure Inside a 5x5 Rod Bundle Using PIV and MIR, E. E. Dominguez-Ontiveros, C. E. Estrada-Perez, Y. A. Hassan *(Texas A&M)*

9:30 a.m.
Spray Interaction with Aerosolized Contaminant, D. Huitink, J. Sweeney, C. Ortiz, Y. A. Hassan *(Texas A&M)*, R. Gauntt *(SNL)*

10:00 a.m.
Scaling Study of a Spacer Grid for Two Phase Flow Separate-Effects Test Facility, Ryan Buck, Stephanie Zwolinski, Seungjin Kim, Jack Brenizer *(Penn State)*

10:30 a.m.
Increased Convective Heat Transfer Caused by Spacer Grids in Laminar, High Void Fraction Flows, Michael J. Meholic, Lawrence E. Hochreiter, John H. Mahaffy *(Penn State)*

Materials Science and Technology: General, sponsored by MSTD. *Session Organizer:* Kenneth Geelhood *(PNNL)*. *Chair:* Rory Kennedy *(INL)*

Teton 1
8:30 a.m.
Fiber Optic Sensors Measuring Gamma Flux and Neutron Fluence, Bryan D. Dickerson, Justin R. Farmer, Joseph A. French, Matthew E. Palmer, Robert S. Fielder *(Luna Innovations Inc)*

8:55 a.m.
Correlations of Low Vapor Pressure Data for Fission Products of Interest in VHTR, Sean Branney, Dabir S. Viswanath, Tushar K. Ghosh, Sudarshan K. Loyalka *(Univ of Missouri, Columbia)*

9:20 a.m.
High Temperature Electro-Mechanical Devices for Nuclear Applications, John Cullen, Mark Husband *(Rolls-Royce)*, Sarah Gibson *(Univ of Sheffield)*, Kris Bradshaw *(Rolls-Royce)*

9:45 a.m.
Fast Neutron Radiation Effects on a SiC Piezoresistive Pressure Sensor, P. Zhang, T. E. Blue, D. Miller *(Ohio State)*

10:10 a.m.
Gamma Radiation Effects on a SiC Piezoresistive Pressure Sensor, P. Zhang, D. Messman, D. Miller, T. E. Blue *(Ohio State)*

Promoting and Sustaining a Nonproliferation Culture Through Education and Training: Sharing the Experience/Preparing the Future, sponsored by FCWMD. *Session Organizer:* Humberto Garcia *(INL)*. *Cochairs:* Humberto Garcia, Caroline Jorant *(AREVA)*

Sierra 1

8:30 a.m.
DOE, University, National Lab Program to Enhance Safeguards Education for the Next Generation of Future Safeguards Professionals, B. D. Boyer, J. E. Doyle *(LANL)*, M. Dreicer *(LLNL)*, E. Sokova *(Monterey Inst of Intl Studies)*, W. S. Charlton *(Texas A&M)*, D. Lockwood, C. Lersten *(NNSA)*

9:00 a.m.
Nuclear Nonproliferation Technical Education Program at TAMU, W. S. Charlton *(Texas A&M)*

9:30 a.m.
Creating the Next-Generation Safeguards Technical Experts at Texas A&M University, Claudio Gariazzo *(Texas A&M)*

Future Safeguards and Associated Policies for Enrichment Implementation and Reprocessing Plants—the Present Through 2020, sponsored by FCWMD. *Session Organizer:* Ned Wogman *(PNL)*. *Chair:* Ned Wogman

Sierra 1
10:05 a.m.
Enhancement of Plutonium Proliferation Resistance by Transmutation of Minor Actinide -Plutonium Denaturing by Decay Heat-, Yoshiki Kimura, Masaki Saito, Hiroshi Sagara *(Tokyo Inst of Technol)*

10:35 a.m.
Determination of Fissile Content in Commercial Spent Fuel with PNAR, Nathan P. Sandoval, Stephen J. Tobin, Howard O. Menlove, Martyn T. Swinhoe *(LANL)*

11:05 a.m.
Online Burnup Analysis of MOX Fuel using Gamma Spectroscopy, Matthew L. Dennis, Shoaib Usman *(Missouri Univ of Science & Technol)*

NOTE: This session will immediately follow the preceding session, which will begin at 8:30 a.m.

(Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications—I, sponsored by BMD; cosponsored by IRD. *Session Organizer:* Rolf Zeisler *(NIST)*. *Chair:* Robin P. Gardner *(NCSU)*. All invited.

Sierra 2
8:30 a.m.
Limits of Detection Determined by Anticoincidence INAA, David L. Anderson *(U.S. FDA)*

9:00 a.m.
Efficiency Calibration of Compton Suppression Counting System, S. R. Biegalski, S. Landsberger *(Univ of Texas, Austin)*

9:30 a.m.
Determination of Uranium in Phosphate Samples Using Compton-Suppressed Gamma-Ray Spectroscopy, R. Kapsimalis, S. Landsberger *(Univ of Texas, Austin)*

10:00 a.m.
Optimizing the Design of a Coincidence PGNAA System for Bulk Analysis, Jiaxin Wang, R. P. Gardner *(NCSU)*

10:30 a.m.
An Evaluation of Compton Suppression Neutron Activation Analysis for Determination of Trace Elements in Geological Samples, S. Landsberger, R. Kapsimalis *(Univ of Texas, Austin)*

Focus on Communications—I: Addressing Public Fear in Nuclear Communications–Panel, sponsored by ETD; cosponsored by YMG. *Session Organizer:* Laura Hermann *(Potomac Communications Group)*. *Cochairs:* Dave Pointer *(ANL)*, Laura Hermann

Shasta 1
8:30 a.m.
With growing public interest in all nuclear science and technology and a potential renaissance in the nuclear power sector, it is more important than ever that all nuclear science and technology professionals be prepared to assure the public that their concerns about both the real and the perceived risks associated with the use of nuclear science and technology are taken seriously by the industry. This session will provide a forum in which attendees will explore the boundary between real and perceived risk, consider the perception of the relative importance of those risks by the public, and develop clear strategies to communicate our understanding of the fear of those risks as well as establish a new dialogue that frames the real and perceived risks with an appropriate sense of realism.

PANELISTS:
- Yoon Chang *(ANL)*
- Patrick Lynch *(IAEA)*
- Chip Cameron *(Zero Gravity Group)*
- Other panelists to be determined.

Decommissioning and Decontamination of Commercial Nonreactor Facilities–Panel, sponsored by DDRD. *Session Organizer:* Nadia Glucksberg *(MACTEC)*. *Chair:* Eugene S. Shephard *(MACTEC)*

Cascade 2
8:30 a.m.
This session will take a specific look at the decommissioning of commercial nonreactor facilities. This session will address ongoing unique challenges as well as emerging issues that can affect future decommissioning activities at these facilities.

PANELISTS:
- How to Complicate a Uranium Cleanup—Make It a Superfund Site and Add PCBs, Todd Majer *(de maximus)*
- Use It or Lose It: Partial Release of a Fuel Cycle Facility, John Conant *(ABB)*
- Challenges Associated with Nonreactor Commercial D&D, Jeff Thompson *(Environmental Management Svc)*
- A Funny Thing Happened on the Way to License Termination; The Top 10 Myths to Commercial D&D, Joe Nardi *(ENERCON Svc)*

TUESDAY, NOVEMBER 11, 2008 • 1:00 P.M.

Computational Methods: General, sponsored by MCD. *Session Organizer:* Todd Urbatsch *(LANL)*. *Chair:* Aaron M. Watson *(KAPL)*

Nevada 1
1:00 p.m.
Generation of Few Group Diffusion Theory Constants by Monte Carlo Code, Hyung Jin Shim, Jin Young Cho, Jae Seung Song *(KAERI)*, Chang Hyo Kim *(Seoul Natl Univ—Korea)*

1:25 p.m.
Monte Carlo Global Scalar Flux Estimation with Kernel Density Estimator, Kaushik Banerjee, William R. Martin *(Univ of Michigan)*

1:50 p.m.
Inverse Point Kinetics with Neural Networks, Paolo Picca *(politecnico di torino)*, Roberto Furfaro, Barry D. Ganapol *(Univ of Arizona)*, Sandra Dulla, Piero Ravetto *(politecnico di torino)*

2:15 p.m.
A Numerical Model for Coupling of Neutron Diffusion and Thermomechanics in Fast Burst Reactors, Samet Y. Kadioglu, Dana A. Knoll *(INL)*, Cassiano de Oliveira *(Univ of New Mexico)*

2:40 p.m.
Feynman Variance to Mean Ratio Simulation with the PANDA Deterministic Code, Humbert Philippe, Méchitoua Boukhmès *(CEA-DAM Ile de France)*

Licensing Digital Upgrades—A Status Report–Panel, sponsored by HFICD; cosponsored by OPD. *Cochairs:* Richard Wood *(ORNL)*, Edward Quinn *(Longenecker & Associates)*

Nevada 11
1:00 p.m.
This session will cover the status report of progress in 2008 on licensing digital systems in both current fleet and new reactors in the U.S. Panelists representing the U.S. Nuclear Regulatory Commission (NRC), Nuclear Energy Institute (NEI), utilities, and vendors will cover the progress in licensing basis development and lessons learned in actually applying the work of the NRC-NEI Technical Working Groups to pilot applications such as the Oconee Reactor Protection System Upgrade.

PANELISTS:
- William Kemper *(NRC)*
- Gordon Clefton *(NEI)*
- Ray Torok *(EPRI)*
- Chris Wiegand *(Exelon)*
- Scott Patterson *(PG&E, Diablo)*

Recent Nuclear Criticality Safety–Related Events and Associated Lessons Learned, sponsored by NCSD; cosponsored by YMG. *Session Organizer:* W. Randy Shackelford *(Nuclear Fuel Svc)*. *Chair:* Nicholas W. Brown *(Nuclear Fuel Svc)*

McKinley
1:00 p.m.
Criticality Safety Issued Related to Use of Raschig Rings at B&W, Larry L. Wetzel *(B&W Nuclear Operations Group)*

1:25 p.m.
Plants Changes Effecting Criticality Alarm Exemptions at NRC Licensees, Dennis C. Morey, Thomas J. Marenchin *(U.S. NRC)*

1:50 p.m.
Importance of Criticality Safety Staff Monitoring and Reviewing Procedures Used to Perform Fissile Material Operations at NRC Licensees, Dennis C. Morey, Thomas J. Marenchin *(U.S. NRC)*

2:15 p.m.
Nuclear Criticality Safety Lessons Learned at Los Alamos National Laboratory, Shean P. Monahan, Douglas G. Bowen *(LANL)*, Patrick S. Moss, Jerry E. Hicks *(U.S. DOE / NNSA)*

2:40 p.m.
March 6, 2006 Spill Event at Nuclear Fuel Services, W. Randy Shackelford, Samuel K. Skiles *(Nuclear Fuel Services, Inc.)*

Operations and Power: General, sponsored by OPD. *Chair:* Sean O'Kelly *(Univ of Texas)*

Nevada 4
1:00 p.m.
A Study to Reduce Reactor Trip Frequency in Westinghouse-Type Nuclear Power Plants, Jong Joo Sohn, In Ho Song, Eun Kee Kim *(KOPEC)*, Young Kook Kim *(KHNP)*

1:25 p.m.
The Major Design Characteristics of the Advanced Power Reactor 1400, Hak-Yeong Chung, Byong Sup Kim, Han-Gon Kim *(Nuclear Engineering & Technol Inst, Korea Hydro & Nuclear Power Co. LTD)*

1:50 p.m.
Plant Monitoring to Improve Equipment Reliability, M. A. Herschthal *(SCE, San Onofre)*

Research Reactor: General, sponsored by OPD. *Session Organizer:* Sean O'Kelly *(Univ of Texas)*. *Chair:* Sean O'Kelly

Nevada 4
2:20 p.m.
Successful Implementation of Software Controls, Howard H. Oberholtzer, Kevin L. Shaw *(ORNL)*

2:45 p.m.
High Flux Isotope Reactor (HFIR), Low Enriched Uranium (LEU) Fuel Multi-Physics Modeling, Lee Tschaepe, Arthur E. Ruggles *(Univ of Tennessee)*, J. D. Freels, R. T. Primm, III *(ORNL)*

3:10 p.m.
Impact of HEU-to-LEU Fuel Conversion on Reactor Performance During a Pump Seizure Transient, R. T. Primm, III *(ORNL)*, C. Galvez Velit *(Univ of California, Berkeley)*, J. C. Gehin *(ORNL)*

NOTE: This session will immediately follow the preceding session, which will begin at 1:00 p.m.

Reactor Physics Design, Validation, and Operating Experience, sponsored by RPD. *Session Organizer:* Bojan Petrovic *(Georgia Tech)*. *Chair:* Gray S. Chang *(INL)*

Nevada 2 and 3
1:00 p.m.
AFC-1 Fuel Rodlet Fission Power Deposition Validation in ATR, G. S. Chang, M. A. Lillo, D. J. Utterbeck *(INL)*

1:30 p.m.
Operating Experience of PLUS7™ Fuel Loaded Core in OPR1000 Power Plants, Il Tak Woo, Sang Rin Shon, Yil Sup Jung *(KNF)*, Pyong Wi Moon *(KHNP)*

2:00 p.m.
Criticality and Doppler Benchmark Calculations for Small Fast Cores, Yasushi Tsuboi, Shinichiro Matsuyama *(Toshiba Corp)*, Masatoshi Kawashima *(AITEL Corp)*

2:30 p.m.
Retrofitting CANDU Reactors for Negative Coolant Void Reactivity, Eleodor Nichita *(Univ of Ontario Inst of Technol)*

3:00 p.m.
Analysis of Legacy LEU Critical Experiments with ENDF/B-VII, Carlos H. Juarez, David D. Dixon, G. Ivan Maldonado *(Univ of Tennessee)*, Robert C. McBroom *(U.S. DOE, Oak Ridge Office)*, Calvin M. Hopper *(ORNL)*

3:30 p.m.
PWR Fuel Assembly Optimization Using Simulated Annealing with TRANSLAT, Timothy Rogers, Jean Ragusa *(Texas A&M)*, Stephen Schultz, Robert St. Clair *(Duke Energy)*

Best of RPSD 2008—II, sponsored by RPSD. *Session Organizer:* Robert Hayes *(NSTech)*. *Chair:* John S. Hendricks *(LANL)*. All invited.

Nevada 6

1:00 p.m.
Use of Portable Gamma Spectrometers for Identifying Persons Exposed in a Nuclear Criticality Event, K. G. Veinot, B. T. Gose *(Y-12 NSC)*, J. S. Bogard *(ORNL)*, T. G. Davis *(Y-12 NSC)*

1:20 p.m.
Reducing Stray Radiation Dose for a Pediatric Patient Receiving Proton Craniospinal Irradiation, Phillip J. Taddei, Dragan Mirkovic, Jonas D. Fontenot, Annelise Giebeler, Yuanshui Zheng, Uwe Titt, Shiao Woo, Wayne D. Newhauser *(Univ of Texas M.D. Anderson Cancer Center)*

1:40 p.m.
Recent Improvement of DARWIN: Dose Monitoring System Applicable to Various Radiations with Wide Energy Ranges, Tatsuhiko Sato, Daiki Satoh, Akira Endo *(Japan Atomic Energy Agency)*, Nobuhiro Shigyo *(Kyushu Univ)*, Hiroshi Yasuda, Masashi Takada, Kazuaki Yajima *(Natl Inst of Radiological Science)*, Takashi Nakamura *(Tohoku Univ)*

2:00 p.m.
Shielding Benchmark Experiment for Hundreds of MeV Quasi-mono-energetic Neutrons, Masayuki Hagiwara, Hiroshi Iwase, Yoichi Kirihara *[High Energy Accelerator Research Organization (KEK)]*

2:20 p.m.
Shielding Design of Spacecrafts Using PHITS, Tatsuhiko Sato *(Japan Atomic Energy Agency)*, Lembit Sihver, Katarina Gustafsson *(Chalmers Univ of Technol)*, Davide Mancusi *(Chalmers Univ of Technol/Univ of Liège)*, K. Niita *(Research Organization for Information Science and Technol)*

2:40 p.m.
Collimated Thermal Neutron Beam Line at Georgia Tech Graphite Pile Facility, E. Burgett, N. Hertel *(Georgia Tech)*

3:00 p.m.
Photon Buildup Factors in Dual-Layer Laminated Shields, Adam Davis, Donald J. Dudziak, Man-Sung Yim *(LANL)*

3:20 p.m.
Estimated Limits on Uncontrolled Beam Losses of Heavy Ions for Allowing Hands-On Maintenance at an Exotic Beam Facility Linac, R. M. Ronningen, Georg Bollen *(Michigan State Univ)*, Igor Remec *(ORNL)*

Computational Thermal Hydraulics, sponsored by THD. *Cochairs:* Brian Woods *(Oregon State Univ)*, Dana A. Powers *(SNL)*

Nevada 7

1:00 p.m.
Large-eddy Simulation of Turbulent Flow with Heat Transfer in a Heated Vertical Tube, Maxim Popov *(Sarov Laboratories)*, Constantine P. Tzanos *(ANL)*, Fred Mendonça *(CD-adapco)*

1:30 p.m.
Particle Behaviors in the Channel with Leakage, Shin K. Kang, Yassin A. Hassan *(Texas A&M)*

2:00 p.m.
COBRA-TF Analysis of RBHT Steam Cooling Experiments, James P. Spring, Lawrence E. Hochreiter, Frank M. Nedwidek *(Penn State)*

2:30 p.m.
Simulation of Two-Phase Flow Instability in CIRCUS Facility Using RELAP5, V. A. Phung, T. Kozlowski, P. Kudinov *[Royal Inst of Technol (KTH)]*, M. Rohde *(Delft UT—Netherlands)*

3:00 p.m.
CFD Simulation of the Boron Injection into the Lower Plenum of a BWR, Jin Yan, Andrew Mallner *(GE-Hitachi Nuclear Energy)*

4:00 – 5:00 p.m.
Thermal Hydraulic Division Technical Achievement Award Ceremony—In Memory of Professor Larry Hochreiter
Thermal Hydraulic Division Best Papers

Mixed Oxide Fuel Fabrication Facility: Construction Issues and Programmatic Changes–Panel, sponsored by FCWMD, in collaboration with SCNN. *Session Organizer:* Carl Mazzola *(Shaw AREVA MOX Services)*. *Chair:* Carl Mazzola

Teton 1

1:00 p.m.
The $4.8 billion Mixed Oxide Fuel Fabrication Facility (MFFF) began construction on August 1, 2007 and is expected to complete construction in 2014. After a two year period of cold testing the facility will transition to operations and begin its nuclear nonproliferation mission to convert 34 metric tons or more of surplus weapon grade plutonium to commercial light water reactor fuel. Like all complex first-of-a-kind projects, MFFF's management is focusing on solving day-to-day challenges in order to bring the project in safely, on schedule, within budget, and with the required high standards of quality. This session provides an opportunity to discuss these challenges and potential solutions as the MFFF moves through construction and into operation.

PANELISTS:
- Clay Ramsey *(NNSA/SR)*
- Sue King *(Shaw AREVA MOX Svc)*
- Dirk Leach *(Shaw AREVA MOX Svc)*
- Alan Hanson *(AREVA NC)*
- Deborah Seymour *(NRC)*

Fuel Cycle and Waste Management: General—I, sponsored by FCWMD. *Chair:* Tom Hirons *(LANL)*

Sierra 1

1:00 p.m.
Use of High Temperature Gas-Cooled Reactor for Utilizing Spent Nuclear Fuel, Hangbok Choi, Jessie Crozier, Puja Gupta, Amy Bozek *(General Atomics)*

1:30 p.m.
Improved Forecasting Method for Building Reactors and Nuclear Fuel Cycle Facilities with the Verifiable Fuel Cycle Simulation Model (VISION), Tyler M. Schweitzer, Paul J. Turinsky *(NCSU)*, Jacob J. Jacobson *(INL)*

2:00 p.m.
Analysis of Inventories and Lead Times for Building Separation Facilities with the Verifiable Fuel Cycle Simulation Model (VISION), Tyler M. Schweitzer, Paul J. Turinsky *(NCSU)*, Jacob J. Jacobson *(INL)*

2:30 p.m.
Simulation of an Accident Scenario for a One Pass Deep Burn Based on QUADRISO Particles, Alberto Talamo *(ANL)*

3:00 p.m.
Implementation of Genetic Algorithms to the Out of Core Economic OptimizatioN- PWR (OCEON-P) Code, Shuang Du, Paul J. Turinsky *(NCSU)*

(Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications—II, sponsored by BMD; cosponsored by IRD. *Session Organizer:* Rolf Zeisler *(NIST)*. *Chair:* S. Landsberger *(Univ of Texas)*. All invited.

Sierra 2
1:00 p.m.
High Sensitive Iridium Measurement Using Neutron Activation Analysis with γ-γ Coincidence Detection, Y. Hatsukawa, M. Oshima, Y. Toh, A. Kimura, M. Koizumi, K. Furutaka, M. Segawa *(Japan Atomic Energy Agency)*

1:30 p.m.
McMaster 4π Anticoincidence Spectrometer and Medical Applications, S. H. Byun, W. V. Prestwich *(McMaster Univ)*

2:00 p.m.
Three-quanta Positron Annihilation in Blood Samples of Different Oxygenation Levels, M. P. W. Chin, N. M. Spyrou *(Univ of Surrey)*

2:30 p.m.
Data Processing for Time-Discriminated Coincidence Gamma-Ray Spectrometry, B. E. Tomlin *(NIST)*

3:00 p.m.
Development of Quality Assessment Tools for Activation Analysis Software, R. Zeisler, R. M. Lindstrom, B. E. Tomlin *(NIST)*

Application of International Codes and Standards in New Nuclear Plants—Harmonization versus Reconciliation–Panel, sponsored by OPD. *Session Organizer:* Steve Stamm *(Shaw Group)*. *Chair:* Steve Stamm

Shasta 1
1:00 p.m.
The construction of new nuclear plants is an international effort with forgings, major components and even materials sourced from around the world. These components may or may not use common codes and standards to those of the host country. If different codes are used this could require detailed evaluations to compare and evaluate the safety significance of code differences by the plant designer with approval by the U.S. Nuclear Regulatory Commission. This panel session will draw together manufacturers, standards executives, and regulators from around the world to discuss their approaches to resolving this issue. The primary focus will be the comparison of ASME Section III, JSME, and the French code with some discussion in other areas.

PANELISTS:
- Steve Stamm *(Shaw Group)*
- Randy Nanstad *(ORNL)*
- Hwa-Gyu Park *(DOOSAN)*
- Kenneth Quinn *(Westinghouse)*
- David Terao *(NRC)*
- Al Tschaeche *(NTAG, Assistant Chair)*

Planning Decommissioning into the Next Generation of Nuclear Power Stations–Paper/Panel, sponsored by DDRD. *Session Organizer:* James Byrne *(Byrne & Assoc)*. *Chair:* James Byrne

Cascade 2

PAPER
1:00 p.m.
Fiber Optic Sensors for Neutron Fluence Measurement in Thermal, Epithermal and Fast Energy Bands, Bryan D. Dickerson, Joseph A. French, Baohe Chang, Robert S. Fielder *(Luna Innovations Inc)*

PANEL DISCUSSION
1:30 p.m.
PANELISTS:
- John D. Parkyn *(Private Fuel Storage)*
- Marty Parece *(Areva)*
- James Shepherd *(NRC)*

Student Design Competition, sponsored by ETD. *Session Organizer:* H. Lee Dodds *(Univ of Tennessee)*. *Chair:* H. Lee Dodds. All invited.

Ruby 1 and 2
The following undergraduate entries have been selected by a panel of judges from industry as finalists in the 2008 Student Design Competition. Oral presentations will be made by students in front of a second panel of judges who will determine the undergraduate winner.

UNDERGRADUATE CATEGORY
1:00 p.m.
Modifications to the University of Florida Training Reactor, Mykhaylo Yenatskyy, Koroush Shirvan, Aaron Wysocki, Ryan Morrow, David Ayre, Matt Green, Charles Cohen *(Univ of Florida)*

1:30 p.m.
A System for Monitoring Critical Parameters in a Spent Fuel Storage Cask, Brian Wood, Kevin Roberts, Tim Sippel, Neal Charlton, Michael Jenkins *(Univ of Tennessee)*

2:00 p.m.
A Study of the Coupled Neutronics and Thermodynamics of a $U_{0.31}ZrH_{1.6}$-fueled Small Modular BWR, Eric N. Van Abel *(Univ of Wisconsin-Madison)*

GRADUATE CATEGORY
2:30 p.m.
Internal Instrumentation for a Spent Nuclear Fuel Dry Storage Cask, Nicholas Luciano, Hermilo Hernandez *(Univ of Tennessee)*

3:00 p.m.
Concluding Remarks by Judges and Announcement of Contest Results.

TUESDAY, NOVEMBER 11, 2008 • 6:00 P.M.

Special Panel Session: Research Highlights Using Advanced Fuel Cycle Technologies. *Chair:* Rob Price *(DOE)*

Crystal 3, 4, and 5
6:00 p.m.
PANELISTS:
- Phillip Finck *(INL)*
- Brent Dixon *(INL)*
- Chris Grandy *(ANL)*
- John Vienna *(PNNL)*
- Paul Filpus-Luyckx *(SRNL)*
- Jon Carmack *(INL)*
- Bob Jubin *(ORNL)*

WEDNESDAY • NOVEMBER 12, 2008	
7:30 AM – 5:00 PM	**MEETING REGISTRATION**
8:00 AM – 10:00 AM	**SPOUSE/GUEST HOSPITALITY**
8:30 AM – 11:30 AM	**2008 ANS WINTER MEETING: TECHNICAL SESSIONS** • Current Issues in Reactor Safety • Human Factors: General • Best of Emergency Preparedness and Response and Robotic and Remote Systems 2008 • Advanced Reactors • Reactor Analysis Methods–II • Radiation Protection and Shielding: General • Recent Work with Gamma Ray Buildup Factors • General Two-Phase Flow • Nuclear Energy Prospects for Developing Nations–Panel • Fuel Cycle and Waste Management: General—II • Decommissioning, Decontamination, and Reutilization: General • Isotopes and Radiation: General • Education Programs: Pre-College to Graduate School and Beyond • Dose Conversion Coefficients • Detection Technologies for Homeland Security Applications
11:30 AM – 1:00 PM	**2008 ANS WINTER MEETING: TECHNICAL SESSION** "Highlights of the PSA 2008 International Topical Meeting on Probabilistic Safety Assessment and Analysis–Panel"
11:30 AM – 1:00 PM	**MSTD AWARDS LUNCHEON**
1:00 PM – 4:00 PM	**2008 ANS WINTER MEETING: TECHNICAL SESSIONS** • Innovations in Probabilistic Risk Assessment • Reactor Fuels and Materials • Data, Analysis, and Operations for Nuclear Criticality Safety—II • Focus on Communications—II: Advocate Nuclear in Your Backyard–Panel • Boiling Water Reactor Stability • Attila–Tutorial • Thermal Hydraulics of High-Temperature Gas-Cooled Reactor Technology • Characterization of Neutron Sources • Fuel Cycle and Waste Management: General—III • Advances and Issues in Computational Phantom Modeling • Commercial Grade Dedication Process for Digital Instrumentation and Control (I&C)–Panel • Experiments in Accelerator Applications
4:00 PM – 6:00 PM	**WORKSHOP:** "Focus on Communications—Enabling Effective Public Advocacy"
6:30 PM – 10:30 PM	**EVENING EVENT:** "Dinner at the Nevada Museum of Art"

WEDNESDAY, NOVEMBER 12, 2008 • 8:30 A.M.

Current Issues in Reactor Safety, sponsored by NISD. *Session Organizer:* Stephen P. Schultz *(Duke Energy)*. *Chair:* Dana A. Powers *(SNL)*

Nevada 1
8:30 a.m.
On-site Wear Measurements on Control Rod Guide Tubes, Matthieu Moreau, Yves-Marie Pacé *(AREVA NP SAS)*

9:00 a.m.
Development of a Maintenance Effectiveness Monitoring Program for CANDU Systems, D. W. Jerng, Seok-Won Hwang *(Nuclear Engineering & Technol Inst, Korea Hydro & Nuclear Power Co.)*, M. Seo *(KEPRI–Korea, KEPCO)*

9:30 a.m.
Methodology for Identifying Correlations between Large Early Release Frequency and Early Fatality, Kyungmin Kang, Moosung Jae *(Hanyang Univ)*, Young Ho Jin *(KAERI)*

10:00 a.m.
Uncertainty of ECCS Performance with Low Pressure Safety Injection to Downcomer, Young Seok Bang, Sweng Woong Woo *(KINS–Korea)*, Jun Soo Yoo *(KAERI)*, Un Chul Lee *(Seoul Natl Univ–Korea)*

10:30 a.m.
Compressive and Buckling Strengths of Oxidized Graphite Column in the Lower Plenum of VHTR, Byung Ha Park, Hee Cheno No *(KAIST–Korea)*, Eung Soo Kim, Chang H. Oh *(INL)*

11:00 a.m.
The Controllability of the High Temperature Gas-Cooled Reactor with a Large Thermal Capacity, SoonJa Song, Wonjae Lee, KiYoung Lee *(KAERI)*

Human Factors: General, sponsored by HFICD. *Session Organizer:* Tyrone S. Tonkinson *(Simple Approach)*. *Chair:* Tyrone S. Tonkinson

Nevada 11
8:30 a.m.
Simplifying Compliance to Processes, G. Galvin, J. Rasmussen, A. Haines *(Industrial Audit)*

9:10 a.m.
I&C Error Prevention Practices Yield Over 36 Reactor Years Scram-Free, Tyrone S. Tonkinson *(Simple Approach)*

9:50 a.m.
Successful Virtual Reality Demonstrations at Nuclear Power Plants, Joseph A. Naser *(EPRI)*, Lewis F. Hanes *(Consultant)*

10:30 a.m.
Bridging Human Performance Evaluation to Design Improvement in Human-Machine Interface (HMI), Jun-Su Ha, Poong-Hyun Seong *(KAIST)*

Best of Emergency Preparedness and Response and Robotic and Remote Systems 2008, sponsored by ESD; cosponsored by RRSD. *Session Organizer:* Rebecca Steinman *(Advent Eng Svc)*. *Chair:* Eric P. Loewen *(GE-Hitachi Nuclear Energy)*. All invited.

McKinley
8:30 a.m.
Robust Performance of Autonomous Robots in Unstructured Environments, Brandon Rohrer *(SNL)*

8:55 a.m.
Robotic Casualty Extraction in Hazardous Environments, Erin Rapacki *(Northeastern Univ)*, Ashley Gross, Michael McComas *(IRobot)*

9:20 a.m.
Remote Handling Equipment in the High Level Waste Melter Cave Support Handling System at the Hanford Waste Treatment Plant, Michael Bardal *(PaR Systems, Inc.)*, Neil Darwen *(Bechtel National, Inc)*

9:45 a.m.
Radiation Mapping Using Multiple Robots, R. A. Cortez, H. G. Tanner, R. Lumia, J. Wood *(Univ of New Mexico)*

10:10 a.m.
Real-Time Contingency Modeling for Consequence Assessment, John Ciolek, Reed Hogin *(AlphaTRAC, Inc.)*

10:35 a.m.
Evaluation of Rugged Wireless Mesh Nodes for Use in Emergency Response, Kevin L. Young, Alan M. Snyder *(INL)*

11:00 a.m.
Emergency Management Software Development Using a Phased Implementation of IEEE Standards, Frank Willett, Reed Hodgin *(AlphaTRAC, Inc.)*

Advanced Reactors, sponsored by OPD. *Cochairs:* Art Wharton *(Westinghouse)*, Bhupinder P. Singh *(DOE)*

Nevada 4
8:30 a.m.
Innovative Shielding Design Concepts for Molten Salt Reactors, Jacob DeWitte, Chris Perfetti, Edward T. Dugan *(Univ of Florida)*

8:50 a.m.
Simulated Reactivity Feedback in a Natural Circulation Integral Test Facility, Mark R. Galvin, Brian G. Woods, John M. Schmitt *(Oregon State Univ)*

9:10 a.m.
Conceptual Design of Regional Energy Reactor, REX-10, Jong-Won Kim *(Seoul Natl Univ–Korea)*, Moo-Hwan Kim *(Pohang Univ of Science and Technol)*, Goon-Cherl Park *(Seoul Natl Univ–Korea)*

9:30 a.m.
Physical Protection Considerations for Grid Appropriate Reactors in Support of the Global Nuclear Energy Partnership, Virginia D. Cleary, Gary Rochau *(SNL)*

9:50 a.m.
Integration of Security, Operations, Safeguards and Safety for Exportable Reactors, Gary Rochau, Virginia D. Cleary *(SNL)*

10:10 a.m.
Nondestructive Assay Measurements of GNEP Related Materials, P. Santi, W. Crooks, W. H. Geist, R. Gonzales, C. Helland, J. Jackson, K. Frame, M. Martinez, C. Scherer, D. Vo *(LANL)*

10:30 a.m.
Nuclear Combined Heating and Power, Elias Zeilah, Justin Buell, Blake Poland, Kristjan Casola, Bayram Ozdemir *(Univ of Maryland)*

10:50 a.m.
Global Advanced Reactor Development Programs, A. Rao, A. Stanculescu *(IAEA)*

Reactor Analysis Methods—II, sponsored by RPD. *Session Organizer:* Bojan Petrovic *(Georgia Tech)*. *Chair:* Benoit Forget *(MIT)*

Nevada 2 and 3
8:30 a.m.
Conversion of PRISM Neutronics Package to Windows Operating System, Kenneth A. Anderson, Eric P. Loewen, Cindy Fung Poon *(GE-Hitachi Nuclear Energy)*

8:55 a.m.
Fast Computation of the Neutron Transport Calculation with a Graphic Processing Unit (GPU), Yasuhiro Kodama, Akio Yamamoto, Yoshihiro Yamane *(Nagoya Univ)*, Yasunori Ohoka, Masahiro Tatsumi *(Nuclear Fuel Industries, Ltd)*

9:20 a.m.
Application of a Game Console for Fast Reactor Physics Computation, Yasuhiro Kodama, Akio Yamamoto, Yoshihiro Yamane *(Nagoya Univ)*

9:45 a.m.
MCOR as a Reference Tool for Benchmarking Spectral Codes, Federico Puente Espel, Chanatip Tippayakul *(Penn State)*, Stefan Misu *(AREVA NP GmbH)*, Kostadin Ivanov *(Penn State)*

10:10 a.m.
Optimization of Batch Power Sharing to Improve Discharge Burnup for Multicycle, Tomoki Iwata, Akio Yamamoto, Yoshihiro Yamane *(Nagoya Univ)*

10:35 a.m.
Regaining the 3D Capability of a Legacy Code for the ATR, Josh Peterson, Erich Schneider *(Univ of Texas, Austin)*

Radiation Protection and Shielding: General, sponsored by RPSD. *Session Organizer:* Charlotta Sanders *(UNLV)*. *Chair:* Eric A. Burgess *(Georgia Tech)*

Nevada 6
8:30 a.m.
In vivo Dosimetry Measurement of Chest Doses in Breast Radiotherapy, Abdulraheem Abdulrahman Kinsara, Noor Molla, Yaser Bahadur, Zeinab Taher, Abdulsaalam Hawsawi, Sami M. Al Shaikh, Mohammed Nasim *(King Abdulaziz Univ)*

8:55 a.m.
Shielding Analysis of Yucca Mountain Aging Casks using MAVRIC, Steven P. Simner, Charlotta E. Sanders *(UNLV)*

9:20 a.m.
MCNPX Cosmic Ray Shielding Calculations with the NORMAN Phantom Model, Michael R. James, Joe W. Durkee, Gregg McKinney *(LANL)*, Robert Singleterry *(NASA-LARC)*

9:45 a.m.
Charged Particle Benchmarking of the Merged MCNP6 Code, Josh B. Spencer *(LANL/Univ of Illinois)*, John T. Goorley, Michael R. James *(LANL)*

Recent Work with Gamma Ray Buildup Factors, sponsored by RPSD. *Session Organizer:* Charlotta Sanders *(UNLV)*. *Chair:* Charlotta Sanders

Nevada 6
10:15 a.m.
Revision of ANSI/ANS-6.4.3, J. C. Ryman *(Bechtel SAIC Company, LLC)*, F. A. Alpan *(Westinghouse)*, L. A. Durani *(UNLV)*, K. F. Eckerman *(ORNL)*, R. E. Faw *(Kansas State Univ)*, L. Ruggieri, C. E. Sanders *(UNLV)*, X. G. Xu *(RPI)*

10:40 a.m.
Overview of Update to ANSI/ANS-6.4.3-1991 Gamma-Ray Buildup Factors, Luis A. Durani, Charlotta E. Sanders *(UNLV)*

11:05 a.m.
Update to ANSI/ANS-6.4.3-1991 Gamma-Ray Buildup Factors for High-Z Engineering Materials (Part I), Lawrence P. Ruggieri, Charlotta E. Sanders *(UNLV)*

NOTE: This session will immediately follow the preceding session, which will begin at 8:30 a.m.

General Two-Phase Flow, sponsored by THD. *Chair:* Kurshad Muftuoglu *(GE-Hitachi Nuclear Energy)*

Nevada 7

8:30 a.m.
Comparison of Local Interfacial Structures around 45 and 90 degree Elbows in the Horizontal Bubbly Flow, Mohan Yadav, Ryan Buck, Justin Talley, Seungjin Kim *(Penn State)*

9:00 a.m.
Measurement of Air-Water Phase Distribution in Horizontal Channel Using Neutron Radiography, Q. Wu *(Oregon State Univ)*, K. Abel *(AREVA)*, J. Skinner, J. N. Reyes, S. Reese *(Oregon State Univ)*

9:30 a.m.
Phase Distribution Effects on One-Dimensional Two-fluid Model for Horizontal Flows, Q. Wu *(Oregon State Univ)*, K. Abel *(AREVA)*, J. Skinner, J. N. Reyes, S. Reese *(Oregon State Univ)*

10:00 a.m.
Quantitative Visualization of Disturbance Waves in Vertical Annular Flow, DuWayne Schubring, Timothy A. Shedd *(Univ of Wisconsin, Madison)*

10:30 a.m.
Analysis of Leaks through Microchannel Cracks, Angelo Frisani, Yassin A. Hassan *(Texas A&M)*

11:00 a.m.
On the Hyperbolicity of a One-Dimensional Two-Phase Flow Model for Nuclear Reactor Safety, Suneet Singh, Vincent A. Mousseau *(INL)*

Nuclear Energy Prospects for Developing Nations–Panel, sponsored by OPD. *Session Organizer:* Andrew Kadak *(MIT)*. *Cochairs:* Andrew Kadak, France Bres-Tutino *(ANS International SC)*

Teton 1
8:30 a.m.
This panel will explore the nuclear renaissance possibilities of developing nations. Many developing nations have begun to express an interest in nuclear energy for their energy needs. We hope to get panelists from developing nations such as India, Malaysia, Chile, Angola, Egypt, and United Arab Emirates to come to discuss their present plans for nuclear energy development including types of technologies needed for their grids and how they plan to introduce the needed regulatory regime.

PANELISTS:
- Maria Candida Teixeira *(Minister of Science and Technology, Angola)*
- Hamad Ali Al Kaabi *(EAA)*
- Michael Paschal *(Metstar Engineering Pvt. Ltd.)*
- Hyun Taek Park *(KHNP)*
- James D. Harvie *(CNS)*
- Roberto Hojman *(CChEN)*
- Other panelists to be determined.

Fuel Cycle and Waste Management: General—II, sponsored by FCWMD. *Chair:* Guillermo (Bill) Daniel Del Cul *(ORNL)*

Sierra 1
8:30 a.m.
Assessing Fuel Cycle Service Needs: Evaluation of Analytical Tools, J'Tia P. Taylor *(SNL/Univ of Illinois)*, David H. Saltiel *(SNL)*

9:00 a.m.
Co-Conversion of Mixed Nitrate Streams from Processed Spent Nuclear Fuel within the CETE Project, E. A. Walker, R. J. Vedder *(ORNL)*

9:30 a.m.
Development of Monte Carlo Models to Investigate Thorium-Based Fuel in Sodium Cooled Fast Reactors, S. Ghrayeb, K. Ivanov, S. Levine *(Penn State)*, E. Loewen *(GE-Hitachi Energy)*

10:00 a.m.
Reevaluating Barrier Attribute Analysis for Non-Proliferation Applications Using Fuzzy Logic, S. Skutnik, M.-S. Yim, J. Li *(NCSU)*

Decommissioning, Decontamination, and Reutilization: General, sponsored by DDRD. *Session Organizer:* Nadia Glucksberg *(MACTEC)*. *Chair:* Jeffrey D. Wagner *(Babcock Services Inc.)*

Sierra 2
8:30 a.m.
Using In-Situ Scintillating Detectors to Assess Compliance with Release Criterion of Embedded Piping in Support of Nuclear Facility Decommissioning, Gerald Wood *(Babcock Services Inc.)*

8:55 a.m.
Carbonation of EBR-II Residual Sodium, Steven R. Sherman *(SRNL)*, Collin J. Knight *(INL)*

9:20 a.m.
Endpoints as a Demolition Project Management Tool, Rob W. Hodgson, Derek Cochrane *(Chapelcross, Magnox North)*, Mark R. Morton *(Polestar, a Worley Parsons Company)*

9:45 a.m.
Plasma Melter System for Noncombustible Waste Treatment, Young-pyo Moon, Tae-won Hwang, Chan-kook Moon *(Nuclear Engineering & Technol Inst of KHNP)*

Isotopes and Radiation: General, sponsored by IRD. *Session Organizer:* Kenan Unlu *(Penn State)*. *Chair:* Kenan Unlu

Sierra 2
10:15 a.m.
Schemes and Assessments of Two Designs for Innovatively Efficient Submicroscopic Power Generators, E. V. Steinfelds, J. S. Tulenko *(Univ of Florida)*

10:40 a.m.
The Study of Thin Film Metal Hydride with Prompt Gamma Activation Analysis, L. R. Cao, J. R. Hattrick-Simpers *(NIST)*, H. Oguchi *(Univ of Maryland)*, R. Paul, L. Bendersky, R. G. Downing *(NIST)*

11:05 a.m.
DOE Radiochemistry Education Award Program (REAP) at the University of Texas at Austin, S. Landsberger, S. Biegalski *(Univ of Texas, Austin)*

NOTE: This session will immediately follow the preceding session, which will begin at 8:30 a.m.

Education Programs: Pre-College to Graduate School and Beyond, sponsored by ETD. *Session Organizer:* Peter F. Caracappa *(RPI)*. *Chair:* Peter F. Caracappa

Shasta 1

8:30 a.m.
Energizing the Youth: Energy and Nuclear Science for High Schools, S. Hakan Armağan *(Omaha Public Schools)*

9:00 a.m.
Minor in Nuclear Engineering at WU and CSU – Successes and Challenges, Edward Asikele *(Wilberforce Univ)*, Brian K. Hajek *(Ohio State)*

9:30 a.m.
KAPL Engineering Internship Program, Eric J. Edwards, Leigh Christiansen, Alison Stolle, Tim Donovan, Ray Gamino *(KAPL Inc., Lockheed Martin Corp)*

10:00 a.m.
Constituency Driven Graduate Level Education in Nuclear Engineering, Larry Foulke, David W. Helling, Pete Sena, Larry Shuman, Minking Chyu *(Univ of Pittsburgh)*

10:30 a.m.
Experience Teaching a Course on the Hydrogen Economy and Fuel Cells to Nuclear Engineers, George H. Miley *(Univ of Illinois)*

11:00 a.m.
When - in my Back Yard?, A. J. Whitney *(Wylfa Power Station)*

Dose Conversion Coefficients, sponsored by RPSD. *Session Organizer:* Tom Jordan *(EMP Consulting)*. *Chair:* Tom Jordan

Cascade 2
8:30 a.m.
2007 ICRP Recommendation: It's Changed, But It's Still Effective!, Michele Sutton Ferenci *(Penn State Hershey Cancer Inst)*, N. E. Hertel *(Georgia Tech)*, K. G. Veinot *(Y-12 NSC)*, J. C. McDonald *(Retired)*

8:55 a.m.
The Proper Care and Feeding of Ambient Dose Equivalent, N. E. Hertel *(Georgia Tech)*, K. G. Veinot *(Y-12 NSC)*

Detection Technologies for Homeland Security Applications, sponsored by RPSD. *Session Organizer:* Raymond Klann *(ANL)*. *Chair:* Raymond Klann

Cascade 2
9:25 a.m.
Paralysis Factor & Dead-time, Measurement Technique and Count Rate Correction, Amol Patil, Shoaib Usman *(Missouri Univ of Science & Technol)*

9:50 a.m.
Tally Tagging Feature in MCNPX 2.7.A, Gregg W. McKinney *(LANL)*

10:15 a.m.
$CeBr_3$ as a High-Resolution Gamma-Ray Detector, Michael Reed, Paul Guss *(Remote Sensing Laboratory)*, Christopher Contreras *(UNLV)*

10:40 a.m.
Interdiction of Smuggled Nuclear Material, N. Dimitrov, M. A. Gonzalez, D. P. Michalpoulos, D. P. Morton, M. Nehme, F. Pan, E. Popova, K. J. Saeger, E. Schneider, G. G. Thoreson *(Univ of Texas, Austin)*

NOTE: This session will immediately follow the preceding session, which will begin at 8:30 a.m.

WEDNESDAY, NOVEMBER 12, 2008 • 11:30 A.M.

Highlights of the PSA 2008 International Topical Meeting on Probabilistic Safety Assessment and Analysis–Panel, sponsored by NISD. *Chair:* Robert J. Budnitz *(LBNL)*

Crystal 4
11:30 a.m.
The purpose of PSA 2008 was to provide a world stage for presenting and discussing the development and evolution of probabilistic methods and their use to improve safety in nuclear installations. The meeting succeeded not only in meeting those goals, but in demonstrating that PSA is finally reaching a state of maturity worldwide and is being used in nuclear design, operations, and the regulatory process. This panel will discuss key highlights, insights, and themes from the topical meeting, including but not limited to human reliability, fire PSA, risk-informed applications, regulatory and standards activities, accident analysis, computer codes, aging, transportation, and common cause.

PANELISTS:
- Robert J. Budnitz *(LBNL)*
- David H. Johnson *(ABS Consulting)*
- B. Bradley *(NEI)*
- Other panelists to be determined

WEDNESDAY, NOVEMBER 12, 2008 • 1:00 P.M.

Innovations in Probabilistic Risk Assessment, sponsored by NISD. *Session Organizer:* Stephen P. Schultz *(Duke Energy)*. *Chair:* Stephen P. Schultz

Nevada 1
1:00 p.m.
Probability of Fire-Induced Cable Failure for Exposure Temperature and Time, Raymond H. V. Gallucci *(NRC)*

1:30 p.m.
Modeling of Communications in the Safety Assessment of Nuclear Power Plants, D. Mandelli, J. Kirschenbaum, L. A. Mangan, E. Ekici, T. Aldemir *(Ohio State)*

2:00 p.m.
Probabilistic Analysis of Safety Acceptance Criteria for Loss of Regulation Accidents in a CANDU Reactor, D. R. Novog *(McMaster Univ)*

2:30 p.m.
Reliability Analysis of Time Varying Stochastic Processes, Luciano Burgazzi *(ENEA)*

3:00 p.m.
Methodology Development for Seamless Level 2/3 PRA Using Dynamic Event Trees, Douglas M. Osborn *(SNL)*, Kyle Metzroth, Tunc Aldemir *(Ohio State)*, Randall Gauntt *(SNL)*

3:30 p.m.
An Optimized Process for the Development of ERP-Based Reliability Database, Seok-Won Hwang, Seung-Jong Oh, Ji-Yong Oh *(Korea Hydro & Nuclear Power Co. Ltd.)*

Reactor Fuels and Materials, sponsored by MSTD. *Session Organizer:* Kenneth Geelhood *(PNNL)*. *Chair:* Kenneth Geelhood

Nevada 11

1:00 p.m.
A Conceptual Design of an Irradiation Test Capsule, Moon-Sung Cho, Bong Koo Kim *(KAERI)*, Young Shin Lee *(Choongnam Natl Univ)*

1:25 p.m.
SHS Production of Nitride Nuclear Fuels Using Surrogate Materials, C. Donohoue, J. J. Moore *(Colorado School of Mines)*

1:50 p.m.
Advanced Bench-scale Metal Fuel Casting System Development, Randall Fielding, Ken Marsden, Blair Grover, Greg Preslar *(INL)*

2:15 p.m.
Cladding Liner Development for GNEP Transmutation Fuels, James I. Cole, Randall Fielding *(INL)*

2:40 p.m.
GNF Fuel Performance Update, Douglas C. Crawford, Robert J. Schneider, Andy A. Lingenfelter *(GNF)*

3:05 p.m.
XEDOR Validation of Stress Threshold and Conditioning Margin for PCI Protection, Y. M. Farawila *(Farawila et al., Inc.)*

Data, Analysis, and Operations for Nuclear Criticality Safety–II, sponsored by NCSD; cosponsored by YMG. *Session Organizer:* Nichole Ellis *(Ellis Nuclear Eng)*. *Chair:* Robert Frost *(Nuclear Safety Associates)*

McKinley
1:00 p.m.
The TWPC Graded-Approach to Nuclear Criticality Safety, Kevin D. Kimball *(NISYS Corp)*

1:25 p.m.
Criticality Frequency Analysis for De-Inventory of Lawrence Livermore National Laboratory's Special Nuclear Materials to Savannah River Site, David Riley, Debdas Biswas, Karen Dodson *(LLNL)*

1:50 p.m.
Approach for Nuclear Criticality Safety During Demolition of the K-25 Building, John R. Chandler *(ACTS of South Carolina)*, Roger W. Bartholomay *(WSMS)*

2:15 p.m.
Subcritical Measurements with Multiple HEU Metal Castings, J. T. Mihalczo, D. A. Archer, M. C. Wright, M. J. Mullens *(ORNL)*

2:40 p.m.
Using Cross-Section Uncertainty Data to Estimate Biases, Donald E. Mueller, Bradley T. Rearden *(ORNL)*

3:05 p.m.
Designing Critical Experiments in Support of Full Burnup Credit, Jeremy A. Roberts *(Univ of Wisconsin, Madison)*, Donald E. Mueller *(ORNL)*

Focus on Communications—II: Advocate Nuclear in Your Backyard–Panel, sponsored by ETD; cosponsored by YMG. *Session Organizer:* David Pointer *(ANL)*. *Chair:* David Pointer

Nevada 4
1:00 p.m.
The electric power industry is beginning to consider the construction and operation of a new generation of nuclear power plants to ensure continuity of power supplies and provide for the nation's growing energy needs, and the public debate over the safety and viability of nuclear energy is rapidly returning to a position of high visibility to the public. In most cases the arguments being leveled against new nuclear generation capacity have not significantly changed since the peak of U.S. construction several decades ago. However, the supporters of nuclear power are taking a more active role, expanding the focus of their efforts beyond the scientific education of future generations to include communication with all affected individuals. This session will highlight current activities of pronuclear activists throughout the nation and the industry.

PANELISTS:
- John Kotek *(American Council on Global Nuclear Competitiveness)*
- Christine Csizmadia *(NEI)*
- Laura Scheele *(ANS)*
- Other panelists to be determined.

Boiling Water Reactor Stability, sponsored by RPD. *Session Organizer:* Albert Gu *(AREVA NP)*. *Chair:* Albert Gu

Nevada 2 and 3
1:00 p.m.
Boiling Water Reactor Stability, a Regulatory Perspective, Tai L. Huang *(U.S. NRC)*, Jose March-Leuba *(ORNL)*, invited

1:25 p.m.
A Single Equation Analogue for Density Wave Oscillations in a Boiling Channel, Yousef M. Farawila *(Farawila et al., Inc.)*

1:50 p.m.
A Review of the Physical Phenomena that Impact the Stability of BWRs, Jose March-Leuba *(ORNL)*, Tai L. Huang *(U.S. NRC)*, invited

2:15 p.m.
Considerations for Bypass Boiling during BWR Power Oscillations, D. W. Pruit, D. R. Tinkler *(AREVA NP)*, Y. M. Farawila *(Farawila et al., Inc.)*

2:40 p.m.
Higher Order Harmonics Calculations and Benchmarking for PANAC11, John F. Zino *(GE-Hitachi Nuclear Energy)*, Atul A. Karve, Brian R. Moore *(GNF)*

3:05 p.m.
Validation of BWR Stability Exclusion Region Using the Haling Principle, Gregory Pearson, Russ Fawcett *(GNF)*, Jerry Head, Alan Chung *(GE-Hitachi Nuclear Energy)*

Attila–Tutorial, sponsored by RPSD. *Session Organizer:* Charlotta Sanders *(UNLV)*. *Chair:* Greg Failla *(Transpire Inc.)*

Nevada 6
1:00 p.m.
The ATTILA tutorial is a hands-on session where attendees will learn how and practice setting up and running simple problems with the deterministic transport code ATTILA. It is designed for those who have never run ATTILA before. Software will be provided for the participants to perform the calculations during the tutorial. While it is recommended that the participants bring their own laptop, additional laptops will be brought to the session so that everyone will be able to try what is being demonstrated.

Thermal Hydraulics of High-Temperature Gas-Cooled Reactor Technology, sponsored by THD. *Cochairs:* Chang Oh *(INL)*, Steve Arndt *(NRC)*

Nevada 7

1:00 p.m.
Experimental Study of the Vorticity Fields of Jets Impinging into a Rod Bundle Using PIV Technique, Noushin Amini, Y. A. Hassan *(Texas A&M)*

1:30 p.m.
Photofabrication and Surface Roughness of Flow Channels for a Compact High-Temperature Heat Exchanger, Sai K. Mylavarapu, Xiaodong Sun, Richard N. Christensen *(Ohio State)*

2:00 p.m.
Scaling Analysis for VHTR Pebble Bed Integral Test Facility, Ben Nelson, Brian Jackson, Brian Woods *(Oregon State Univ)*

2:30 p.m.
Analysis on the Density Driven Air-Ingress Accident in VHTRs, Eung Soo Kim, Chang Oh, Richard Schultz, David Petti *(INL)*

3:00 p.m.
Stress and Heat Transfer Analyses for Different Channel Arrangements of PCHE, Jong B. Lim *(Univ of Wisconsin, Madison)*, Robert G. Shrake *(Montana State Univ)*, Eung S. Kim, Chang H. Oh *(INL)*

3:30 p.m.
Thermal-Fluid Phenomena in Reactor Cavity Cooling Systems, D. Huitink, Y. A. Hassan *(Texas A&M)*

Characterization of Neutron Sources, sponsored by IRD. *Session Organizer:* Kenan Unlu *(Penn State)*. *Chair:* Kenan Unlu

Teton 1

1:00 p.m.
Measured Neutron Spectra in the OSURR Rabbit Tube, E. Burgett, N. Hertel *(Georgia Tech)*, J. Chenkovich, T. Blue *(Ohio State)*

1:25 p.m.
Comparison of MCNP Calculations and Measurements Wire Activation in OSURR, R. J. Chenkovich, R. A. Kennedy, T. E. Blue *(Ohio State)*

1:50 p.m.
Neutron Spectra in the PSU Breazeale Reactor Neutron Beam, E. Burgett, N. Hertel *(Georgia Tech)*, D. Sahin, K. Ünlü *(Penn State)*

2:15 p.m.
A Neutron Generator Based on a Linear IEC, George H. Miley, Hiromu Momota, Linchun Wu *(Univ of Illinois)*

2:40 p.m.
Pyroelectric Crystal-Generated Neutron Production: Preliminary Results Using a Portable Vacuum System, Don Gillich, Yaron Danon, Andrew Kovanen, Bryan Herman *(RPI)*

Fuel Cycle and Waste Management: General—III, sponsored by FCWMD. *Chair:* Stephen L. Turner *(Consultant)*

Sierra 1

1:00 p.m.
Impact of Reprocessing Separation Efficiency on Fuel Cycle Cost and Repository Capacity, J. Li *(NCSU)*, A. Scopatz *(Univ of Texas, Austin)*, M. S. Yim *(NCSU)*, E. Schneider *(Univ of Texas, Austin)*, D. McNelis *(NCSU)*

1:30 p.m.
The Cooling Design Investigation for a High Capability Dry-Storage System Through CFD Simulation, Yung-Shin Tseng, Jong-Rong Wang *(Nuclear Engineering Group)*, Yi-Hsiang Cheng, Chunkuan Shih *(Natl Tsing Hua Univ)*

2:00 p.m.
The Specific Temperature Increase Method for Repository Thermal Analysis, Jun Li, Man-sung Yim, David McNelis *(NCSU)*

2:30 p.m.
Lessons Learned from Largest Shipment of Russian Research Reactor Spent Nuclear Fuel, Michael Tyacke, Igor Bolshinsky *(INL)*

3:00 p.m.
LWR-VHTR Fuel Cycles with Dedicated Small 14MeV Waste Incineration Back-End Clean-up Facilities, Pavel V. Tsvetkov *(Texas A&M)*

Advances and Issues in Computational Phantom Modeling, sponsored by BMD; cosponsored by MCD, in collaboration with CMPWG. *Session Organizer:* Bernadette Kirk *(ORNL)*. *Chair:* Hatice Akkurt *(ORNL)*

Sierra 2

1:00 p.m.
Monte Carlo Proton Radiation Therapy Planning Calculations, Wayne D. Newhauser, Yuanshui Zheng, Phillip J. Taddei, Dragan Mirkovic *(Univ of Texas M.D. Anderson Cancer Center)*, Jonas D. Fontenot *(The Univ of Texas Graduate School of Biomedical Sciences at Houston)*, Annelise Giebeler *(Univ of Texas M.D. Anderson Cancer Center)*, Rui Zhang *(Univ of Texas Graduate School of Biomedical Sciences at Houston)*, Uwe Titt, Radhe Mohan *(Univ of Texas M.D. Anderson Cancer Center)*

1:30 p.m.
Anthropomorphic Voxel Phantoms: beyond Organ Shapes and Sizes, M. P. W. Chin *(Univ of Surrey)*, A. A. Alghamdi *(King Faisal Univ)*, N. M. Spyrou *(Univ of Surrey)*

2:00 p.m.
Cellularity in Skeletal Dosimetry, Peter F. Caracappa *(RPI)*, T. C. Ephraim Chao *(Chang Gung Univ)*, X. George Xu *(RPI)*

2:30 p.m.
Anthropomorphic Phantoms with the Geant4 Toolkit, Maria Grazia Pia *(INFN Genova)*, Marcia Begalli *(State Univ Rio de Janeiro)*, Pedro Pacheco de Queiroz Filho, Denison de Souza Santos *(IRD)*, Rosana de Souza e Silva *(State Univ Rio de Janeiro)*

3:00 p.m.
EGSnrc and GEANT4 Simulation of Electron Nanosteps in Gold, M. P. W. Chin, N. M. Spyrou *(Univ of Surrey)*

Commercial Grade Dedication Process for Digital Instrumentation and Control (I&C)–Panel, sponsored by OPD. *Session Organizer:* Frank X. Talbot *(NRC)*. *Chair:* Frank X. Talbot

Shasta 1

1:00 p.m.
The purpose of this session is to address the challenges in meeting NRC requirements for commercial graded dedication of safety related digital I&C hardware and software in support of both operating fleet and new construction in the United States. This session will bring together experts from industry and the regulator to address the various aspects of this important regulatory and technical area to allow application of digital I&C systems to nuclear plants and fuel cycle facilities. Speakers will represent the regulatory perspective, as well as industry and vendors current work activities and preparations for expansion in meeting the needs for new installations.

PANELISTS:
- Steve Arndt *(NRC)*
- Brian Grimes *(Consultant, Retired NRC)*
- Edward L. (Ted) Quinn *(Longenecker & Associates)*
- Clayton Scott *(Invensys Process Systems)*
- Jeff Larson *(Invensys Process Systems)*
- James Gleason *(GE-Hitachi Nuclear Energy)*

Experiments in Accelerator Applications, sponsored by AAD. *Session Organizer:* Denis Beller *(UNLV)*. *Chair:* Denis Beller

Cascade 2
1:00 p.m.
YALINA-Thermal Experiment Analysis with the Deterministic Code System ERANOS, G. Aliberti, Y. Gohar, F. Kondev, A. Talamo *(ANL)*, H. Kiyavitskaya, V. Bournos, Y. Fokov, C. Routkovskaya, I. Serafimovich *(Joint Inst for Power and Nuclear Research-SOSNY)*

1:25 p.m.
Comparison of MCNP/MCNPX Results with Experimental Data of YALINA-Booster Facility, Alberto Talamo, Y. Gohar, F. Kondev, Gerardo Aliberti *(ANL)*, Anna Kiyavitskaya, Victor Bournos, Yury Fokov, Christina Routkovskaya, Ivan Serafimovich *(Joint Inst for Power and Nuclear Research-SOSNY)*

1:50 p.m.
Final Report of the U.S. Reactor-Accelerator Coupling Experiments (RACE) Project, Denis Beller *(UNLV)*, Frank Harmon *(Idaho State Univ)*, Sean O'Kelly *(Univ of Texas, Austin)*, William Charlton *(Texas A&M)*, John Lee *(Univ of Michigan)*, Thomas Ward *(TechSource, Inc.)*, Frank Goldner *(U.S. DOE)*

2:15 p.m.
Simulation of the Neutron Source Created in the Target of Electron Accelerator using MCNP, Evgeny Y. Stankovskiy *(UNLV)*, Christian C. Jammes *(CEA)*, Denis E. Beller *(UNLV)*

2:40 p.m.
Simulation of Pulsed Neutron Source Reactivity Measurements and Calculation of Kinetic Parameters with MCNP, Evgeny Y. Stankovskiy *(UNLV)*, Christian C. Jammes *(CEA)*, Denis E. Beller *(UNLV)*

3:05 p.m.
Photon Spectra Calculation for an Elekta Linac Beam Using Experimental Scatter Measurements and Monte Carlo Techniques, B. Juste, R. Miró *(Polytechnic Univ of Valencia)*, J. M. Campayo, S. Díez *(Hospital Clínic Universitari de València)*, G. Verdú *(Polytechnic Univ of Valencia)*

THURSDAY • NOVEMBER 13, 2008

7:30 AM – 2:00 PM	**MEETING REGISTRATION**
8:30 AM – 11:30 AM	**2008 ANS WINTER MEETING: TECHNICAL SESSIONS** • Emerging Issues in Nuclear Reactor Safety • Nuclear Criticality Safety Standards Poster Session • ANS 53.1: Safety Design Process and Modular Helium-Cooled Reactors—A New Standard for the Future–Panel • Reactor Physics: General • Introductory Monte Carlo–Tutorial • Cutting Edge Techniques in Education, Training, and Distance Learning • Fuel Cycle and Waste Management: General—IV • Advanced Separation Technologies for Spent Nuclear Fuel or Radioactive Waste Treatment • Spallation Neutron Source Initial Operational Experience
1:00 PM – 4:00 PM	**2008 ANS WINTER MEETING: TECHNICAL SESSIONS** • Nuclear Installations Safety: General • Data, Analysis, and Operations for Nuclear Criticality Safety—III • Nuclear Science and Engineering in Nevada

THURSDAY, NOVEMBER 13, 2008 • 8:30 A.M.

Emerging Issues in Nuclear Reactor Safety, sponsored by NISD. *Session Organizer:* Stephen P. Schultz *(Duke Energy)*. *Chair:* Lawrence M. Zull *(DNFSB)*

Nevada 1
8:30 a.m.
The Ignition and Combustion of Zircaloy-4, D. F. Spratt, T. F. Lin, J. A. Peters *(Penn State)*

9:00 a.m.
High Temperature Boric Acid Solubility during Post-LOCA Long-term Cooling Period, Young Soo Kim, Hee Cheon No, Eo Hwak Lee, Seung Hun Yoo, Hyun Min Kim *(KAIST)*, Sang Il Lee *(KOPEC)*, Chang Hyun Kim, Jong Woon Park *(KHNP)*

9:30 a.m.
Diversity Design Features against Common Mode Failure of Digital Computer-Based I&C Systems for Shin-Kori 3&4, Young Sil Sul, Kwang Won Lee, Jong Tae Seo *(KOPEC)*

10:00 a.m.
EPR - RPV Internals Vibration Assessment, Jean-Luc Chambrin, Nicolas Jobert *(AREVA NP)*

10:30 a.m.
SERENA TS-1 and KS-1 Pre-test Calculations, Mitja Uršič, Matjaž Leskovar *(Jozef Stefan Inst)*

11:00 a.m.
Global Mode Stability Characteristics of Lungmen Nuclear Power Plant, Chang-Lung Hsieh *(Natl Tsing Hua Univ–Taiwan)*, Hao-Tzu Lin, Jong-Rong Wang *(Inst of Nuclear Energy Research Atomic Energy Council)*, Wen-Jie Chang *(Natl Tsing Hua Univ–Taiwan)*, Su-Chin Cheng, Chunkuan Shih *(Taiwan Power Company)*

Nuclear Criticality Safety Standards Poster Session, sponsored by NCSD; cosponsored by YMG. *Session Organizer:* Thomas P. McLaughlin *(Consultant)*

McKinley
8:30 a.m.
Administrative Practices for Nuclear Criticality Safety, R. W. Carson Jr. *(NISYS Corp)*

ANSI/ANS-8.23-2007: Nuclear Criticality Accident Emergency Planning and Response, James S. Baker *(LANL)*

Criticality Safety Engineer Training and Qualification Program – ANSI/ANS-8.26, James A. Morman *(ANL)*

Overview of the Raschig Ring Standard, J. E. Hicks *(U.S. DOE NNSA)*

ANSI/ANS 8.24 - Validation of Neutron Transport Methods for Nuclear Criticality Safety Calculations, Robert D. Busch *(Univ of New Mexico)*

ANSI/ANS-8.1: Nuclear Criticality Safety in Operations with Fissile Material Outside Reactors, Douglas G. Bowen *(LANL)*, Nicholas W. Brown *(Nuclear Fuel Services)*

ANSI/ANS-8.15: Nuclear Criticality Control of Selected Actinide Nuclides, Charles T. Rombough *(CTR Technical Services)*

ANSI/ANS 8.12, Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors, Debdas Biswas *(LLNL)*, Dennis Mennerdahl *(E M Systems)*

Nuclear Criticality Safety Based on Limiting and Controlling Moderators - ANSI/ANS-8.22, Michael J. Crouse *(URS - Washington Division)*

Guide for Nuclear Criticality Safety in the Storage of Fissile Materials, Kevin D. Kimball *(NISYS Corp)*, Calvin M. Hopper *(ORNL)*

ANSI/ANS-8.21: Use of Fixed Absorbers in Nuclear Facilities Outside Reactors Poster Session, Hans Toffer *(Consultant)*, David Erickson *(Fluor Government Group)*

ANSI/ANS 8.6 American National Standard for Safety in Conducting Subcritical Neutron Multiplication Measurements in Situ, William L. Myers *(LANL)*

ANSI/ANS-8.25-200X: Development of Nuclear Criticality Safety Related Postings Proposed Standard, Gerard F. Couture *(Westinghouse)*

ANSI/ANS-8.20 – Nuclear Criticality Safety Training, A. Nichole Ellis *(Ellis Nuclear Engineering)*, Ronald A. Knief *(XE Corp)*

ANS 53.1: Safety Design Process and Modular Helium-Cooled Reactors—A New Standard for the Future–Panel, sponsored by OPD. *Chair:* Jim August *(CORE, Inc.)*

Nevada 4
8:30 a.m.
New interest in graphite-moderated, helium-cooled reactors is stimulating renewed debate on the nature of reactor safety design. From the highly scripted results in traditional American Nuclear Society (ANS) design standards, ANS's Subcommittee 28 to the Nuclear Facilities Safety Committee is taking a risk-informed, performance-based approach. For an intervening period of 30 years ANS 53.1 languished on the sidelines following the loss of interest in helium-cooled reactors in the early 1970s and nuclear power generally a decade later. Now Congress's charge to look for better energy sources in new power reactor designs has led to the DOE's sponsorship with industry of the Next Generation Nuclear Plant (NGNP) legislation, to develop a new high-temperature reactor capable of generating hydrogen. Modular helium reactors look like the best near-term technology for commercialization.

Join us for a discussion of the design and licensing issues behind the development of the NGNP's new modular helium-cooled reactor (MHR). All should find interest in the development of one of the first new risk-informed safety standards.

PANELISTS:
- Dick Black *(DOE)*
- Ed Wallace *(PBMR)*
- Farshid Shahrokhi *(AREVA)*
- John Gaertner *(EPRI)*
- Stu Rubin *(NRC)*
- Prasad Kadambi *(NRC)*
- Jim August *(Core, Inc.)*
- Don Spellman *(ORNL)*

Reactor Physics: General, sponsored by RPD. *Session Organizer:* Bojan Petrovic *(Georgia Tech)*. *Chair:* Dave Nigg *(INL)*

Nevada 2 and 3
8:30 a.m.
Basic Concept of Water Moderated Small Reactor for Neutron Transmutation Doping, Toru Obara, Liem Peng Hong *(Tokyo Inst Technol–Japan)*, Naoyuki Takaki *(TEPCO, Yokohama–Japan)*

8:55 a.m.
Nuclear Design of Small PWR Core with Thorium Fuel, Mon Mon Kyaw, Myung-Hyun Kim *(Kyung Hee Univ)*

9:20 a.m.
Progress in the Integration of the 2D DG-FEM S_N Transport Solver Xuthus into SCALE, Yaqi Wang, Jean C. Ragusa *(Texas A&M)*, Mark D. DeHart, Kevin T. Clarno *(ORNL)*

9:45 a.m.
A Coupled Monte Carlo/Collision Probability Method for VHTR Analysis, Gokhan Yesilyurt, William R. Martin, John C. Lee *(Univ of Michigan)*

10:10 a.m.
Cross-Section Adjustment Algorithms for Boiling Water Reactor Core Simulation, Matthew A. Jessee, Hany S. Abdel-Khalik, Paul J. Turinsky *(NCSU)*

10:35 a.m.
Detailed, Benchmark, and Cylindrical Models for a Static Super-Prompt-Critical Condition of Godiva-IV, Russell D. Mosteller, Joetta M. Goda *(LANL)*

11:00 a.m.
Transient Parameters of Integral Kinetic Model for Weakly Coupled Systems, Hiroki Takezawa, Toru Obara *(Tokyo Inst of Technol)*

Introductory Monte Carlo–Tutorial, sponsored by RPSD. *Session Organizer:* John S. Hendricks *(LANL)*. *Chair:* Eric Burgett *(Georgia Tech)*

Nevada 6
8:30 a.m.
The Monte Carlo tutorial is a hands-on session where attendees will learn how and practice setting up and running simple Monte Carlo problems.

It is designed for those who have never run a Monte Carlo calculation before. Those attending this session will be shown how to set up and run the simple MCNP/MCNPX family of Monte Carlo codes. Participants contacting the organizer (jxh@lanl.gov) in advance may be able to have the code on their personal laptops. Additional laptops will be brought to the session so that everyone will be able to try what is being demonstrated. In previous sessions, people who had never run a Monte Carlo problem before were now able to do simple problems.

Cutting Edge Techniques in Education, Training, and Distance Learning, sponsored by ETD. *Chair:* John Wheeler *(Entergy)*

Nevada 7
8:30 a.m.
Evidencing the 'E,' Assessing the Experience of SQEP Personnel, Beccy Pleasant *(Magnox North)*

9:00 a.m.
Current Status of Distance Education at the U. of Tennessee with Emphasis on Nuclear Engineering, H. L. Dodds, R. E. Pevey, Caroline C. Bowers *(Univ of Tennessee)*

9:30 a.m.
The Martini Effect—Anytime, Anyplace, Anywhere, Beccy Pleasant, Peter Scallan *(Magnox North)*

10:00 a.m.
Stakeholder Perspectives and Effectiveness Data on Scenario-Based RPT Curriculum, Rose M. Marra, David H. Jonassen, William H. Miller, Gayla M. Neumeyer *(Univ of Missouri, Columbia)*

10:30 a.m.
Live-Guidance: Crossing the Chasm Between Learning Environment and Improving Memory, Maggie Haertsch *(VOICEMAP Inc.)*

Fuel Cycle and Waste Management: General—IV, sponsored by FCWMD. *Chair:* Terry Todd *(INL)*

Sierra 1
8:30 a.m.
Nitrogen Trifluoride, A New Fluorinating Agent for the Nuclear Fuel Cycle, Randall D. Scheele, Bruce K. McNamara *(PNNL)*

9:00 a.m.
Integration of Multiple Methods of Fluid Dynamics Analysis in Designing the Waste Treatment Plant in Hanford, WA, Kelly J. Knight, Scott Thomson, Brigette Rosendall, Phil Keuhlen, Jon Berkoe *(Bechtel National, Inc)*

9:30 a.m.
Transmuting Very Long Lived Nuclear Waste Into Valuable Materials, Robert E. Schenter *(Advanced Medical Isotope Corp)*, Michael K. Korenko *(Curtiss-Wright Corp)*

Advanced Separation Technologies for Spent Nuclear Fuel or Radioactive Waste Treatment, sponsored by FCWMD. *Session Organizer:* Terry Todd *(INL)*. *Chair:* Terry Todd

Sierra 1
10:05 a.m.
Experimental Evaluation of Couette Columns for Solvent Extraction Processes, Denise Schuh *(Univ of Wisconsin-Madison)*

10:35 a.m.
Microbial Treatment of Irradiated Graphite for Separation of Radioisotope ^{14}C from Bulk Graphite ^{12}C, Mary Lou Dunzik-Gougar *(Idaho State Univ)*, Leszek Kuczynski, Francis van Ravenswaay, Johan Slabber *(PBMR Pty Ltd)*, Evans M. N. Chirwa *(Univ of Pretoria)*, Ashy Pete *(PBMR (Pty) Ltd)*, Simphiwe Chabalala *(Univ of Pretoria)*

11:05 a.m.
Uranium and TRU Dissolution Behaviors in Carbonate-Peroxide Solutions, Bruce K. McNamara, Shane M. Peper, Matthew J. O'Hara, Matthew Douglas *(Battelle, PNNL)*

NOTE: This session will immediately follow the preceding session, which will begin at 8:30 a.m.

Spallation Neutron Source Initial Operational Experience, sponsored by AAD. *Session Organizer:* Phillip Ferguson *(ORNL)*. *Chair:* Phillip Ferguson

Cascade 2
8:30 a.m.
Accelerator Experience at SNS, M. A. Plum *(ORNL)*

9:00 a.m.
SNS Target Systems Operating Experience up to 500 kW, T. McManamy *(ORNL)*

9:30 a.m.
Neutronic Analyses of the SNS Accelerator Facility in the Early Stage of Operations, I. I. Popova, F. X. Gallmeier, P. D. Ferguson, J. Galambos, G. Dodson *(ORNL)*

10:00 a.m.
Mercury Target Development at SNS, B. W. Riemer, A. A. Abdou, D. K. Felde, M. W. Wendel *(ORNL)*

THURSDAY, NOVEMBER 13, 2008 • 1:00 P.M.

Nuclear Installations Safety: General, sponsored by NISD. *Session Organizer:* Stephen P. Schultz *(Duke Energy)*. *Chair:* Charles R. Martin *(DNFSB)*

Nevada 1
1:00 p.m.
Consideration of the Effect of an Automatic Test for a Digital Plant Protection System, Seung Jun Lee, Hyun Gook Kang, Seung Cheol Jang *(KAERI)*

1:30 p.m.
Perspectives on DOE Consequence Inputs for Accident Analysis Applications, Kevin R. O'Kula, David C. Thoman, Jonathan Lowrie, Austin Keller *(WSMS)*

Data, Analysis, and Operations for Nuclear Criticality Safety—III, sponsored by NCSD; cosponsored by YMG. *Session Organizer:* Nichole Ellis *(Ellis Nuclear Eng)*. *Chair:* Don Mueller, Sr. *(ORNL)*

McKinley

1:00 p.m.
MCNP5 Criticality Benchmarking Using ENDF/B-VII.0 for LEU Systems, John Hannah, Qi Ao, John F. Zino *(GE-Hitachi Nuclear Energy)*

1:25 p.m.
Efforts to Eliminate Raschig Ring Filled Vessels at B&W, Ron Green *(Babcock and Wilcox NOG-L)*

1:50 p.m.
Variation of Extrapolation Distance with ^{235}U Concentration, Allison Miller, Robert Busch *(Univ of New Mexico)*

2:15 p.m.
The Quantitative Relevance of Correlation to the Independence Aspect of the Double Contingency Principle, Burton Rothleder *(DOE)*

2:40 p.m.
Performance of the New Continuous Energy Capability in KENO V.a, S. Goluoglu *(ORNL)*

3:05 p.m.
Parametric Studies for Nuclear Criticality Safety Using Microsoft Excel, Michael J. Crouse *(URS)*, Wes Waddell, Steve Van Volkinburg *(NISYS Corp)*

Nuclear Science and Engineering in Nevada, sponsored by RPSD; cosponsored by MSTD. *Session Organizer:* Robert Hayes *(NSTech)*. *Chair:* Nick Tsoulfanidis *(Univ of Nevada, Reno)*

Nevada 6
1:00 p.m.
Measurement of Liquid Metal Coolant Flow Velocity with Correlated Thermal Signals, Taleb Moazzeni, Jian Ma, Rohit Reddy, Yingtao Jiang *(UNLV)*, Ning Li *(LANL)*

1:30 p.m.
Microstructural Characterization of Deformed ODS Alloy PM2000 at High Temperature, R. Tache, K. S. Raja *(Univ of Nevada, Reno)*, L. Ma *(UNLV)*, Y. Ashida, M. Misra *(Univ of Nevada, Reno)*

2:00 p.m.
Liquid Metal Coolants (LBE) for Fast-flux Nuclear Applications: Corrosion of Steel, John W. Farley, Allen L. Johnson, Dan Koury, Brian Hosterman, Thao Trung Ho *(UNLV)*, Lucas Wilson *(Univ of Wisconsin- Stevens Point)*, Markus Vasquez *(Oklahoma State Univ)*

Criticality Accident Source Term

FRIDAY, NOVEMBER 14, 2008
8:30 AM – 5:00 PM
LOCATION: Sierra Room

The Nuclear Criticality Safety Division is sponsoring a Workshop on Criticality Accident Source Terms at the upcoming ANS meeting in Reno this November 14th. Understanding and estimating criticality accident source terms is an important, yet controversial part of our business. It is important because source terms drive:

- what our facilities must deploy for criticality accident alarm systems
- what they should prepare to do in case of an accident
- authorization basis considerations (i.e., DSA Chapter 3 analyses and consequences)

These topics have been controversial because of:

- different approaches preferred by different practitioners
- difficulty in understanding the totality of experimental data and uncertainties
- widely varying empirical correlations to describe these phenomena
- differing approaches to estimating credible, yet bounding values
- mis-application of previously-published estimates

This workshop will address these issues by giving attendees a broad understanding of the available data, methods and correlations that are available. The chairs of the ANSI/ANS Working Groups for Criticality Accident Alarm Systems and Nuclear Criticality Accident Emergency Planning and Response will be present to help discuss these issues and how they relate to requirements of the standards. The instructors include subject matter experts from France who will discuss, among other things, the French experimental programs that have provided a substantial fraction of the available data.

The workshop topics include:

1. Introduction
2. Physics and kinetics needed to describe criticality accidents
3. Overview of critical experiments that simulate accidents
4. Process and experimental criticality accident experience
5. Estimating fission source terms with empirical correlations
6. Detailed system modeling with physics codes
7. Using the Nuclear Criticality Slide Rule
8. Summary, Recommendations, Questions & Answers

The workshop instructors include Shean Monahan *(LANL)*, Mathieu Duluc *(IRSN, France)*, Travis Grove *(LANL)*, Bryan Broadhead *(ORNL)* and Jim Baker *(LANL)*.

Potential Nuclear Criticality Safety Evaluation Improvements for Operational Efficiencies

MONDAY, NOVEMBER 10, 2008
6:00 PM – 9:00 PM
LOCATION: Crystal 1 & 2

6:00 PM – 6:05 PM **Welcome/Introduction**
Dae Chung/Chuan-Fu Wu/Robert Wilson *(EM-60)*

6:05 PM – 6:20 PM **Status of DOE 2007-1 Implementation Plane**
Larry Berg *(EM)*

6:20 PM – 6:35 PM **DOE NDA Technical Support Group Status/Activities re. DNFSB 2007-1**
Tom Nirider *(DOE Richland)*

6:35 PM – 6:50 PM **DOE Nuclear Criticality Safety Program Status/Activities**
Jerry McKamy *(NNSA-17)*

6:50 PM – 7:05 PM **EFCOG Status/Activities**
Kevin Carroll *(LLNL)*

7:05 PM – 7:30 PM **Topic Workgroup Caucuses**

7:05 PM – 7:15 PM **Break**

7:30 PM – 8:55 PM **Topic Workgroup Reports**

TOPIC# 1: Inconsistencies between DOE Orders, Standards, and Guides results in inefficiencies in implementation (e.g. 1027, 3009, 3007, 420.1B) and clarity of expectations is lacking
Glenn Christenbury and Fitz Trumble *(WSMS)*; Kevin Kimball *(Nisys)*

TOPIC# 2: Inadequate Criticality Safety Evaluations may lead to stop work and inefficiencies
Brenda Hawks and Jim Morman *(ANL)*

TOPIC #3: Lack of support for mass characterization processes and lack of standards creates inefficiencies in controls and application
Larry Berg *(EM)*; Tom Hines *(LEX)*; Jeff Castor *(BJC)*

TOPIC# 4: Lack of repository for NCS evaluations and data leads to re-generation of analyses and re-creation of controls for common operations
Lori Scott *(NNSA)*; Robert Wilson *(EM)*

TOPIC# 5: Lack of standardized methodology for common NCS evaluations lead to inefficiency and create problems when material is transferred from one location to another
Carol Cise and Robert Wilson *(EM)*

TOPIC# 6: Criticality Detection and alarm methods are not tailored to the different EM activities, which leads to confusion and possible excessive control of the risk.
Brenda Hawks *(ORO)*; Bonnie Rumble *(Nisys)*; Kristan Wessels *(NFS)*

TOPIC# 7: Experiments and/or Data needs to enhance EM mission work and reduce cost/schedule
Robert Wilson *(EM)*; Mike Westfall *(ORNL)*

TOPIC# 8: Ineffective use of data from nonconformances, lessons learned, and corrective actions lead to repetitive problems at EM sites.
Lary Berg *(EM)*

TOPIC# 9: Contracting practices hinder effective criticality safety programs
Robert Wilson and Chuan-Fu Wu *(EM)*

TOPIC# 10: Retiring workforce and nuclear industry growth is creating deficiencies in qualified staffing
Kristan Wessels *(NFS)*

TOPIC# 11: Funding, Resources, Contractor & DOE Management Commitment, Support, and Monitoring
Robert Wilson and Chuan-Fu Wu *(EM)*

8:55 PM – 9:00 PM **Summary, conclusions and resolutions**
Dae Chung/Chuan-Fu Wu/Robert Wilson *(EM-60)*

COMMITTEE MEETINGS

NATIONAL COMMITTEES

Accreditation Policies and Procedures
SUNDAY, 5:00 P.M. – 7:00 P.M.
LOCATION: Cascade 2

Board of Directors
Professional Division Reports
WEDNESDAY, 4:00 P.M. – 5:30 P.M.
LOCATION: Summit Pavilion

Board of Directors
THURSDAY, 8:00 A.M. – 5:00 P.M.
LOCATION: Summit Pavilion

Bylaws and Rules
SUNDAY, 1:30 P.M. – 4:00 P.M.
LOCATION: Cascade 2

Finance
TUESDAY, 4:00 P.M. – 7:00 P.M.
LOCATION: Teton 2

Honors and Awards
MONDAY, 4:00 P.M. – 6:00 P.M.
LOCATION: Teton 2

International
SUNDAY, 11:30 A.M. – 2:30 P.M.
LOCATION: Nevada 6 & 7

Local Sections/Workshop
SUNDAY, 8:00 A.M. -12:00 P.M.
LOCATION: McKinley

Membership
SUNDAY, 11:00 A.M. – 1:00 P.M.
LOCATION: Cascade 2

National Program Committee (NPC)
Program
WEDNESDAY, 4:00 P.M. – 7:00 P.M.
LOCATION: Crystal 1 & 2

Screening and International
MONDAY, 4:00 P.M. – 6:00 P.M.
LOCATION: Summit Pavilion

NEED
SUNDAY, 7:30 P.M. – 9:30 P.M.
LOCATION: Room 153

Planning
SUNDAY, 2:00 P.M. – 6:00 P.M.
LOCATION: Shasta 2

President's Meetings
with Committee Chairs
SUNDAY, 9:00 A.M. – 10:30 A.M.
LOCATION: Crystal 1 & 2

with Division Chairs
SUNDAY, 10:30 A.M. – 11:30 A.M.
LOCATION: Crystal 1 & 2

Professional Development Workshop
TUESDAY, 7:30 A.M. – 8:30 A.M.
LOCATION: Room 155

Professional Divisions
Committee Meeting
TUESDAY, 4:00 P.M. – 6:30 P.M.
LOCATION: Summit Pavilion

Training Workshop
SATURDAY, 5:00 P.M. – 8:00 P.M.
LOCATION: Crystal 4 & 5

Professional Engineering Exam
SUNDAY, 4:00 P.M. – 6:00 P.M.
LOCATION: Teton 2

Professional Women in ANS
MONDAY, 11:30 A.M. – 1:00 P.M.
LOCATION: Teton 2

Public Information
SUNDAY, 4:00 P.M. – 6:00 P.M.
LOCATION: Crystal 4

Public Policy
WEDNESDAY, 11:30 A.M. – 1:30 P.M.
LOCATION: Teton 2

Publications Steering
Book Publishing
SUNDAY, 11:00 A.M. – 12:00 P.M.
LOCATION: Cascade 1

Meetings, Proceedings and Transactions
MONDAY, 7:30 A.M. – 8:30 A.M.
LOCATION: Shasta 2

Nuclear News Editorial Advisory
SUNDAY, 4:00 P.M. – 5:30 P.M.
LOCATION: Cascade 1

Nuclear Science and Engineering (NSE) Editorial Advisory
SUNDAY, 11:15 A.M. – 12:00 P.M.
LOCATION: Room 151

Nuclear Technology (NT) Editorial Advisory
SUNDAY, 10:00 A.M. – 11:00 A.M.
LOCATION: Cascade 1

Publications Steering
MONDAY, 4:00 P.M. – 6:00 P.M.
LOCATION: Shasta 2

Technical Journals
SUNDAY, 1:00 P.M. – 3:30 P.M.
LOCATION: Cascade 1

Scholarship Policy and Coordination
MONDAY, 12:00 P.M. – 1:00 P.M.
LOCATION: Shasta 1

Student Sections
Executive
MONDAY, 6:00 P.M. – 7:00 P.M.
LOCATION: Shasta 1

Reports
MONDAY, 7:00 P.M. – 8:00 P.M.
LOCATION: Shasta 1

SPECIAL COMMITTEES

Development
TUESDAY, 1:30 P.M. – 3:00 P.M.
LOCATION: Teton 2

Government Relations
TUESDAY, 1:30 P.M. – 3:30 P.M.
LOCATION: Shasta 2

Nuclear Nonproliferation
SUNDAY, 2:00 P.M. – 4:00 P.M.
LOCATION: Shasta 1

OTHER COMMITTEES

17th PBNC Organizing Committee
MONDAY, 4:00 P.M. – 6:00 P.M.
LOCATION: Room 151

CNF
MONDAY, 7:30 P.M. – 10:00 P.M.
LOCATION: Teton 2

Eagle Alliance Board of Directors
SUNDAY, 1:00 P.M. – 3:30 P.M.
LOCATION: Ruby 2

INSC
SUNDAY, 3:00 P.M. – 6:00 P.M.
LOCATION: Nevada 6 & 7

Item Writer's Workshop
SATURDAY, 6:00 P.M. – 10:00 P.M.
LOCATION: Whitney

Mathematics and Computation/ Reactor Physics/ Radiation Protection & Shielding Joint Benchmark Meeting
SUNDAY, 11:00 A.M. – 1:00 P.M.
LOCATION: Sierra 1

NEDHO
MONDAY, 4:30 P.M. – 6:00 P.M.
LOCATION: Whitney

PHYSOR2010 Planning Committee
SUNDAY, 12:00 P.M. – 1:00 P.M.
LOCATION: Ruby 1

Risk Management Embedded Topical Planning Meeting
TUESDAY, 4:30 P.M. – 6:30 P.M.
LOCATION: Room # 169

US ERANOS Users Group
MONDAY, 6:00 P.M. – 7:30 P.M.
LOCATION: Shasta 2

UWC 2009 Planning Committee
SUNDAY, 12:00 P.M. – 1:00 P.M.
LOCATION: Room 153

Workforce Development – The NRC Grants Program
TUESDAY, 2:00 P.M. – 3:30 P.M.
LOCATION: Whitney

DIVISION COMMITTEES

Accelerator Applications
Executive
MONDAY, 11:30 A.M. – 1:30 P.M.
LOCATION: Whitney

Aerospace Nuclear Science and Technologies
SUNDAY, 12:00 P.M. – 2:00 P.M.
LOCATION: Room 155

Biology and Medicine
Committee of the Whole
SUNDAY, 4:00 P.M. – 5:30 P.M.
LOCATION: Room 151

Computational Medical Physics Working Group
SUNDAY, 10:00 A.M. – 11:00 A.M.
LOCATION: Room 153

Decommissioning, Decontamination and Reutilization
Committee Meeting
SUNDAY, 1:00 P.M. – 5:00 P.M.
LOCATION: McKinley

Education and Training
Alpha Nu Sigma
SUNDAY, 1:00 P.M. – 2:00 P.M.
LOCATION: Shasta 2

Executive/Membership/ Honors and Awards
SUNDAY, 1:30 P.M. – 4:00 P.M.
LOCATION: Ruby 1

Nuclear Workforce Working Group
SUNDAY, 12:00 P.M. – 1:30 P.M.
LOCATION: Crystal 3

Program
SUNDAY, 10:30 A.M. – 12:00 P.M.
LOCATION: Crystal 3

University/Industry/ Government Relations
SUNDAY, 9:30 A.M. – 10:30 A.M.
LOCATION: Crystal 3

Environmental Sciences
ESD Special Committee on Climate Change
SUNDAY, 1:00 P.M. – 3:00 P.M.
LOCATION: Teton 1

Environmental Sciences
Executive
SUNDAY, 10:00 A.M. – 12:00 P.M.
LOCATION: Teton 1

Nuclear Production of Hydrogen Working Group
SUNDAY, 12:00 P.M. – 1:00 P.M.
LOCATION: Teton 1

Program
SUNDAY, 8:30 A.M. – 10:00 A.M.
LOCATION: Teton 1

Fuel Cycle and Waste Management
Executive
SUNDAY, 1:00 P.M. – 2:30 P.M.
LOCATION: Crystal 4

Program
SUNDAY, 12:00 P.M. – 1:00 P.M.
LOCATION: Crystal 4

Technical Operating and Standards Committee
SUNDAY, 2:30 P.M. – 3:30 P.M.
LOCATION: Crystal 4

Fusion Energy
Executive
SUNDAY, 3:00 P.M. – 5:00 P.M.
LOCATION: Crystal 3

Human Factors, Instrumentation, and Controls
Executive/Program
TUESDAY, 12:00 P.M. – 1:30 P.M.
LOCATION: Teton 2

Isotopes and Radiation
Executive
SUNDAY, 2:30 P.M. – 4:00 P.M.
LOCATION: Room 153

Joint Program Committee – I&R and B&M
SUNDAY, 1:30 P.M. – 2:30 P.M.
LOCATION: Room 153

Materials Science and Technology
Executive
MONDAY, 7:00 P.M. – 9:00 P.M.
LOCATION: Whitney

Mathematics and Computation
Computational Medical Physics Working Group
SUNDAY, 10:00 A.M. – 11:00 A.M.
LOCATION: Room 151

Executive
SUNDAY, 2:00 P.M. – 4:00 P.M.
LOCATION: Room 151

Mathematics and Computation
Program
SUNDAY, 1:00 P.M. – 2:00 P.M.
LOCATION: Room 151

Nuclear Criticality Safety
Education Meeting
SUNDAY, 1:00 P.M. – 1:30 P.M.
LOCATION: Sierra 1

Executive
SUNDAY, 2:30 P.M. – 4:00 P.M.
LOCATION: Sierra 1

Program
SUNDAY, 1:30 P.M. – 2:30 P.M.
LOCATION: Sierra 1

Nuclear Installation Safety
Executive
SUNDAY, 7:30 P.M. – 9:30 P.M.
LOCATION: Sierra 1

Program
SUNDAY, 4:00 P.M. – 6:00 P.M.
LOCATION: Sierra 1

Operations and Power
Executive
SUNDAY, 4:00 P.M. – 6:00 P.M.
LOCATION: Crystal 1 & 2

Nuclear Construction Working Group
SUNDAY, 12:30 P.M. – 2:30 P.M.
LOCATION: Crystal 1 & 2

Program
SUNDAY, 2:30 P.M. – 4:00 P.M.
LOCATION: Crystal 1 & 2

Radiation Protection and Shielding
Executive
MONDAY, 5:00 P.M. – 6:30 P.M.
LOCATION: Cascade 1

Program
MONDAY, 4:00 P.M. – 5:00 P.M.
LOCATION: Cascade 1

Reactor Physics
Executive
SUNDAY, 4:00 P.M. – 6:00 P.M.
LOCATION: Room 155

Goals and Planning
SUNDAY, 1:00 P.M. – 2:00 P.M.
LOCATION: Room 169

Program
SUNDAY, 2:00 P.M. – 4:00 P.M.
LOCATION: Room 155

Robotics and Remote Systems
Executive
SUNDAY, 12:00 P.M. – 4:00 P.M.
LOCATION: Teton 2

Thermal Hydraulics
Executive
SUNDAY, 5:00 P.M. – 7:00 P.M.
LOCATION: Teton 1

Program
SUNDAY, 3:00 P.M. – 5:00 P.M.
LOCATION: Teton 1

Young Member Group
Executive Committee
SUNDAY, 7:00 A.M. – 9:00 A.M.
LOCATION: Teton 2

Training Session
TUESDAY, 4:00 P.M. – 6:00 P.M.
LOCATION: Crystal 1

STANDARDS COMMITTEES

ANS Standards Board
TUESDAY, 9:00 A.M. – 5:00 P.M.
LOCATION: Cascade 1

ANS-5.1
MONDAY, 2:00 P.M. – 3:00 P.M.
LOCATION: Shasta 2

ANS-6.1.1 Working Group
MONDAY, 8:30 A.M. – 9:30 A.M.
LOCATION: Room # 155

ANS-8.1
TUESDAY, 7:00 A.M. – 8:30 A.M.
LOCATION: Ruby 1

ANS-8.12
TUESDAY, 4:00 P.M. – 5:30 P.M.
LOCATION: Room 155

ANS-8.20
SUNDAY, 9:00 A.M. – 12:00 P.M.
LOCATION: Room 155

ANS-8.21
TUESDAY, 7:00 A.M. – 8:30 A.M.
LOCATION: Room 169

THURSDAY, 7:00 A.M. – 8:30 A.M.
LOCATION: Room 169

ANS-8.22
WEDNESDAY, 1:00 P.M. – 3:00 P.M.
LOCATION: Room 155

ANS-8.23
WEDNESDAY, 8:00 A.M. – 12:00 P.M.
LOCATION: Room 155

ANS-10.7
TUESDAY, 7:00 A.M. – 8:30 A.M.
LOCATION: Teton 2

ANS-19
MONDAY, 8:30 A.M. – 10:30 A.M.
LOCATION: Shasta 2

ANS-19.1
MONDAY, 11:30 A.M. – 12:30 P.M.
LOCATION: Shasta 2

ANS-19.3
MONDAY, 10:30 A.M. – 11:30 A.M.
LOCATION: Shasta 2

ANS-19.9
TUESDAY, 7:30 A.M. – 8:30 A.M.
LOCATION: Room 151

ANS-28/ANS-53.1
WEDNESDAY, 8:00 A.M. – 5:00 P.M.
LOCATION: Room 151

ANS-58.14
TUESDAY, 8:30 A.M. – 5:00 P.M.
LOCATION: Room 151

ANS-58.25
WEDNESDAY, 8:00 A.M. – 5:00 P.M.
LOCATION: Room 153

N16
MONDAY, 1:00 P.M. – 5:00 P.M.
LOCATION: Room 155

NFSC
MONDAY, 10:00 A.M. – 6:00 P.M.
LOCATION: Crystal 5

RISC
WEDNESDAY, 8:00 A.M. – 6:00 P.M.
LOCATION: Whitney

NOTE:
Some afternoon committee meetings will be held in rooms that follow a technical session. The technical sessions must be allowed to finish prior to entering the room to begin the committee meeting.

ANS NUCLEAR TECHNOLOGY EXPO

Sunday, November 9, 2008 • 6:00 p.m. – 7:30 p.m.
(ANS President's Reception)

Monday, November 10, 2008 • 11:30 a.m. – 6:00 p.m.
(ANS Luncheon • Prizes • Welcome Reception)

Tuesday, November 11, 2008 • 10:00 a.m. – 2:00 p.m.
(Dessert Bar • Prizes)

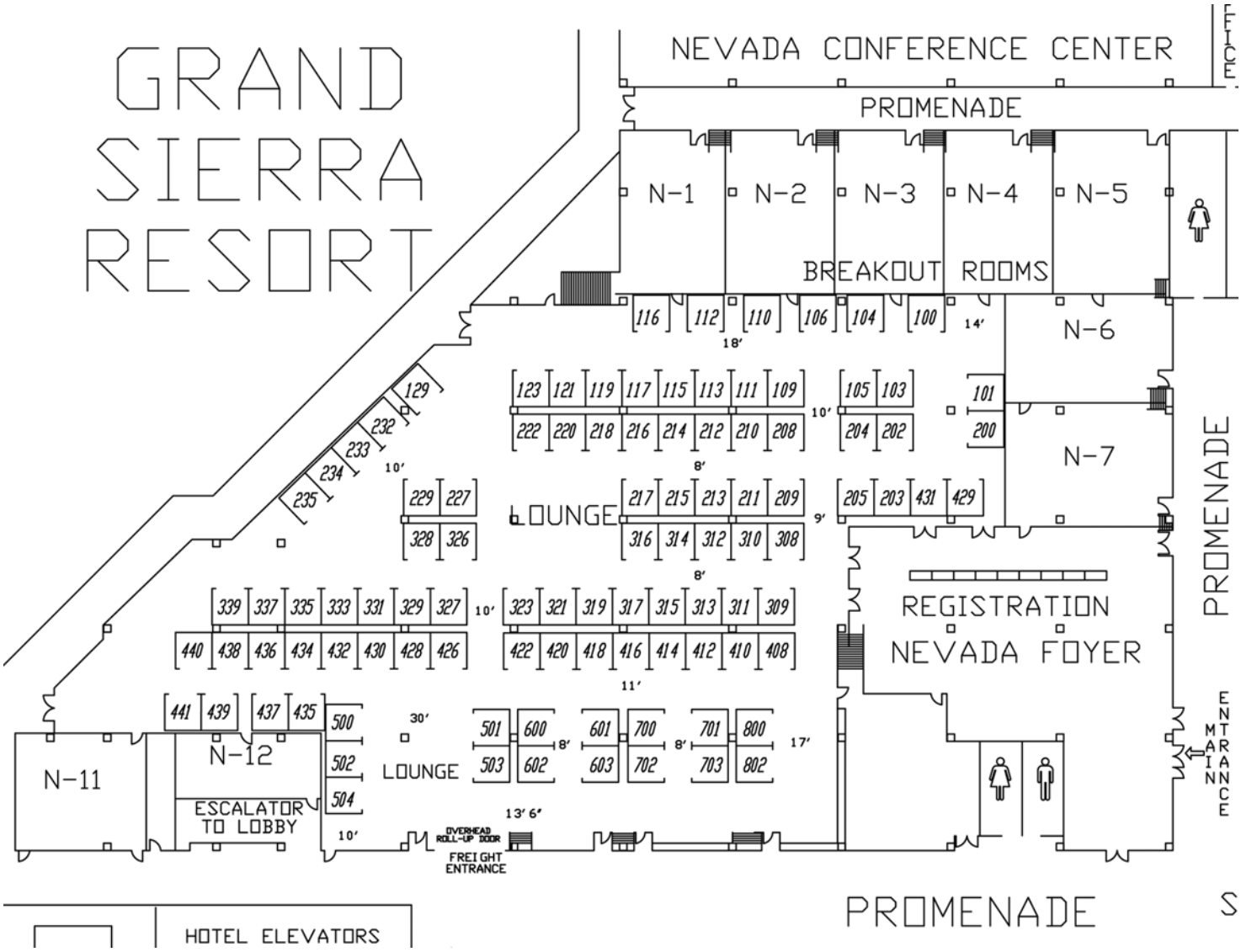
The ANS Nuclear Technology Expo will be held November 9-11, 2008 in the Neveada Conference Center of the Grand Sierra Resort & Casino.

The Expo will open Sunday from 6:00 p.m. – 7:30 p.m. for the ANS President's Reception. Many other special events will take place in the Exhibit Hall on Monday and Tuesday. (Most events require tickets.)

Representatives from leading organizations will be available to answer your questions about their innovative products and services. A list of exhibitors follows.

FLOOR PLAN

Nevada Conference Center – Grand Sierra Resort & Casino



We thank the following companies for their generous support of the ANS Expo Special Events:

Bechtel Nuclear Power
(Attendee Prizes)

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1) **The national meetings feature comprehensive technical programs, professional development workshops, exhibits, tours and special events**

2) **Executive conferences and workshops focus on timely issues and topics regarding the implementation, operation and regulation of the nuclear industry**

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2009 ANS Annual Meeting • Atlanta, Georgia

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Make plans now to attend!

2009 NATIONAL MEETINGS

DATE	TITLE	LOCATION
Jun 14-18, 2009	2009 ANS ANNUAL MEETING *"Advancing Nuclear Technology for a Greater Tomorrow"* and EMBEDDED TOPICAL MEETING NUCLEAR AND EMERGING TECHNOLOGIES FOR SPACE (NETS—2009; Formerly Space Nuclear Conference)	**Atlanta, Georgia** *Hyatt Regency Atlanta Hotel*
Nov 15-19, 2009	2009 ANS WINTER MEETING AND NUCLEAR TECHNOLOGY EXPO and EMBEDDED TOPICAL MEETING RISK MANAGEMENT and EMBEDDED TOPICAL MEETING 2009 YOUNG PROFESSIONALS CONGRESS	**Washington, D.C.** *Omni Shoreham Hotel*

2009 TOPICAL AND OTHER IMPORTANT MEETINGS

DATE	TITLE	LOCATION
Feb 8-11, 2009	CONFERENCE ON NUCLEAR TRAINING AND EDUCATION (CONTE'09) AND VENDOR TECHNOLOGY EXPO	**Jacksonville, Florida** *Hyatt Regency Riverfront*
Apr 5-9, 2009	6TH INTERNATIONAL TOPICAL MEETING ON NUCLEAR PLANT INSTRUMENTATION CONTROL AND HUMAN MACHINE INTERFACE TECHNOLOGY (NPIC&HMIT2009)	**Knoxville, Tennessee** *Knoxville Marriott*
Apr 6-10, 2009	8TH INTERNATIONAL CONFERENCE ON METHODS AND APPLICATIONS OF RADIOANALYTICAL CHEMISTRY (MARC VIII)	**Kailua-Kona, Hawaii** *King Kamehameha's Kona Beach Hotel*
Apr 12-15, 2009	ADVANCES IN NUCLEAR FUEL MANAGEMENT IV	**Hilton Head, South Carolina** *Hilton Oceanfront Resort*
May 3-7, 2009	2009 INTERNATIONAL CONFERENCE ON MATHEMATICS, COMPUTATIONAL METHODS, AND REACTOR PHYSICS	**Saratoga Springs, New York** *Knolls Atomic Power Laboratory*
Aug 2-5, 2009	UTILITY WORKING CONFERENCE AND VENDOR TECHNOLOGY EXPO	**Amelia Island, Florida** *Amelia Island Plantation*
Aug 23-27, 2009	14TH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL DEGRADATION OF MATERIALS IN NUCLEAR POWER SYSTEMS	**Virginia Beach, Virginia** *Hilton Virginia Beach*
Sep 13-17, 2009	NUCLEAR CRITICALITY SAFETY: REALISM, ROBUSTNESS AND THE NUCLEAR RENAISSANCE	**Richland, Washington**

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Ontario Power Generation
Overly Manufacturing Company

Pacific Gas & Electric Co.
Pakistan Atomic Energy Commission
PaR Nuclear, Inc.
PaR Systems, Inc.
Phoenix Contact Inc.
PPL Susquehanna, LLC
Private Fuel Storage, LLC

Reef Industries, Inc.
Rigging International
ROS, Inc. (Remote Ocean Systems, Inc.)

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Southern California Edison
Southern Nuclear Operating Co.
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The American Nuclear Society (ANS) is an international, not-for-profit, scientific and educational organization consisting of about 11,000 individual members, more than 1,600 organizations, 70 Organization Members, 20 professional divisions/technical groups, 51 U.S. and 9 non-U.S. local sections/affiliated societies, 14 plant branches, and 34 student sections. ANS also maintains about 30 formal agreements for cooperation with international organizations.

The Society's main objectives are the advancement of engineering and science relating to the atomic nucleus, and to the integration of the science and management disciplines constituting nuclear science and technology. Other purposes are to encourage research, establish scholarships, disseminate information, inform the general public about nuclear-related activities, conduct meetings at which scientific and technical papers are presented, and cooperate with government agencies, educational institutions, and other organizations having similar purposes.