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2004 ANS WINTER MEETING

"Leadership Toward a Progressive, Integrated Nuclear Community—Going Forward Together"

EMBEDDED TOPICAL MEETING:
Best Estimate Twenty-O-Four (BE2004)

EMBEDDED TOPICAL MEETING:
Operating Nuclear Facility Safety (2004 ONFS)

ANS NUCLEAR TECHNOLOGY EXPO

NOVEMBER 14-18, 2004 • WASHINGTON, DC • OMNI SHOREHAM HOTEL

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

Visit ANS home page www.ans.org for future meetings and more!

2004 ANS WINTER MEETING

"Leadership Toward a Progressive, Integrated Nuclear Community—Going Forward Together"

From Fodors.com:
"Pierre-Charles L'Enfant called it the President's House; it was known formally as the Executive Mansion; and in 1902 Congress officially proclaimed it the White House."

A special thank you to the photographer, Scott Dam.

SATURDAY, NOVEMBER 13, 2004

5:30 p.m. - 8:00 p.m.	Professional Divisions Workshop
6:00 p.m. - 10:00 p.m.	Student Professional Development Workshop Reception

SUNDAY, NOVEMBER 14, 2004

8:00 a.m. - Noon	ANS Students' Professional Development Workshop - "How Can I Get the Most from my ANS Experience?"
1:00 p.m. - 1:30 p.m.	First-Time Attendees Orientation
3:00 p.m. - 5:00 p.m.	Student Assistant Training Session
5:00 p.m. - 6:00 p.m.	Mentoring Program
6:00 p.m. - 7:30 p.m.	President's Reception

MONDAY, NOVEMBER 15, 2004

8:00 a.m. - 10:00 a.m.	Spouse/Guest Hospitality
8:00 a.m. - 12:00 p.m.	Plenary Session (2004 ANS Winter Meeting): Nuclear in the 21st Century—Going Foward Together
11:30 a.m. - 6:00 p.m.	ANS Nuclear Technology Expo
12:00 p.m. - 1:00 p.m.	Attendee Luncheon in Nuclear Technology Expo
1:00 p.m. - 4:00 p.m.	Technical Sessions: 2004 ANS Winter Meeting
1:00 p.m. - 4:00 p.m.	Plenary Session: Embedded Topical Meeting – Operating Nuclear Facility Safety
1:00 p.m. - 5:00 p.m.	Plenary Session: Embedded Topical Meeting – Best Estimate 2004
*1:00 p.m. - 5:00 p.m.	Spouse/Guest Tour: "Welcome to Washington"
4:00 p.m. - 6:00 p.m.	Reception in Nuclear Technology Expo
4:00 p.m - 6:00 p.m.	General Chairman's Special Session: Atoms for Prosperity—The Next 10 Years
*7:00 p.m.- 10:00 p.m.	Reception at the International Spy Museum

**** Please Note: The times listed are departure times and return times to/from the hotel. Busses will leave promptly from the Parkview Entrance of the Omni Shoreham Hotel, located just outside of the Blue Room.***

TUESDAY, NOVEMBER 16, 2004

8:00 a.m. - 10:00 a.m.	Spouse/Guest Hospitality
8:30 a.m. - 11:30 a.m.	Technical Sessions: 2004 ANS Winter Meeting
8:30 a.m. - Noon	Technical Sessions: Embedded Topical Meeting – Best Estimate 2004
8:30 a.m. - Noon	Technical Sessions: Embedded Topical Meeting – Operating Nuclear Facility Safety
*9:30 a.m. - 2:00 p.m.	Spouse/Guest Tour: "Celebrated Gardens and Great Estates"
10:00 a.m. - 2:00 p.m.	ANS Nuclear Technology Expo
11:30 a.m. - 1:00 p.m	ANS Honors and Awards Luncheon
1:00 p.m. - 4:00 p.m.	Technical Sessions: 2004 ANS Winter Meeting
1:00 p.m. - 5:00 p.m.	Technical Sessions: Embedded Topical Meeting – Best Estimate 2004
1:30 p.m. - 4:30 p.m.	Technical Sessions: Embedded Topical Meeting – Operating Nuclear Facility Safety
4:00 p.m. - 6:00 p.m.	Beer Fest in the Nuclear Technology Expo
4:00 p.m. - 6:00 p.m.	ANS President's Session: Energy and the Environment – Golden Opportunities for the Next 50 Years
6:30 p.m. - 8:30 p.m.	Project Prometheus Overview: Nuclear Science and Technology in Space–Panel
7:00 p.m. - 9:00 p.m.	Banquet: Operating Nuclear Facility Safety Topical Meeting

**** Please Note: The times listed are departure times and return times to/from the hotel. Busses will leave promptly from the Parkview Entrance of the Omni Shoreham Hotel, located just outside of the Blue Room.***

WEDNESDAY, NOVEMBER 17, 2004

8:00 a.m. - 10:00 a.m.	Spouse/Guest Hospitality
8:30 a.m. - 11:30 a.m.	Technical Sessions: 2004 ANS Winter Meeting
8:30 a.m. - Noon	Technical Sessions: Embedded Topical Meeting – Best Estimate 2004
8:30 a.m. - Noon	Technical Sessions: Embedded Topical Meeting – Operating Nuclear Facility Safety
*9:00 a.m. - 4:00 p.m.	Spouse/Guest Tour: "Annapolis: The U.S. Naval Academy"
11:30 a.m. - 1:00 p.m.	Nuclear Installations Safety Division (NISD) Luncheon
11:30 a.m. - 1:00 p.m.	Materials Science and Technology Division (MSTD) Awards Luncheon
1:00 p.m. - 4:00 p.m.	Technical Sessions: 2004 ANS Winter Meeting
1:00 p.m. - 4:00 p.m.	Technical Sessions: Embedded Topical Meeting – Best Estimate 2004
1:30 p.m. - 5:00 p.m.	Technical Sessions: Embedded Topical Meeting – Operating Nuclear Facility Safety
4:00 p.m. - 6:00 p.m.	Technical Program Chairman's Special Session: Taking the Lead on Critical Issues
*7:00 p.m. - 10:00 p.m.	Reception at the British Embassy

THURSDAY, NOVEMBER 18, 2004

8:30 a.m. - 11:30 a.m.	Technical Sessions: 2004 ANS Winter Meeting
8:30 a.m. - 11:30 a.m.	Wrap-up Session: Embedded Topical Meeting – Best Estimate 2004
8:00 a.m. - 12:30 p.m.	Technical Session and Panel Session Summary: "Highlights and Recommendations:" Embedded Topical Meeting – Operating Nuclear Facility Safety

FRIDAY, NOVEMBER 19, 2004

8:00 a.m. - 4:00 p.m.	DOE Nuclear Criticality Safety Program

Meeting Officials

William D. Magwood, IV
U.S. Department of Energy
General Chair

Donald R. Hoffman
EXCEL Services Corporation
Deputy General Chair

Mark Reinhart
U.S. Nuclear Regulatory Commission
Technical Program Chair

Sophie Gutner
Dominion Generation
Assistant Technical Program Chair

Jean Ann Reinhart
Interaction Internationale, LLC
Assistant Technical Program Chair

Donna M. Skay
U.S. Nuclear Regulatory Commission
Assistant Technical Program Chair

C. Thomas Snow
Dominion Resources
Assistant Technical Program Chair

Larry Curfman
Dominion Resources
Finance Chair

Sama Bilbao y Leon
Dominion Resources
Student Program Chair

Jennifer Butler
Pennsylvania State University
Assistant Student Program Chair

2004 ANS WINTER MEETING

"Leadership Toward a Progressive, Integrated Nuclear Community—Going Forward Together"

View from the fountain of the U.S. Botanical Garden (A special thank you to the photographer, Herb Fontecilla.)

The 2004 ANS Winter Meeting will be held November 14-18, 2004, in Washington, DC. There will be two embedded topical meetings held in conjunction with the 2004 ANS Winter Meeting: "Best Estimate Twenty-O-Four" and "Operating Nuclear Facility Safety." An ANS Students' Professional Development Workshop, "How Can I Get the Most from My ANS Experience?," will also be held in conjunction with the 2004 ANS Winter Meeting.

ANS Nuclear Technology Expo

The ANS Nuclear Technology Expo will be held in conjunction with the 2004 ANS Winter Meeting in the Lower Level Exhibit Hall of the Omni Shoreham Hotel. Additional information is beginning on page 37.

ANS Registration

ANS Registration will be located at the West Registration Desk of the hotel, on Saturday, November 13th through Wednesday morning, November 17th. Wednesday afternoon, November 17th through Thursday, November 18th registration will be held at the West Conference Foyer. Meetings and Workshop Registration, Speakers' and 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. An advance meeting registration form begins on page 40.

Registration Hours

Saturday, November 13th
2:00 p.m. - 5:00 p.m.

Sunday, November 14th
7:30 a.m. - 8:30 a.m.*
11:00 a.m. - 7:00 p.m.

Monday, November 15th
7:30 a.m. - 5:00 p.m.

Tuesday, November 16th
7:30 a.m. - 5:00 p.m.

Wednesday, November 17th
7:30 a.m. - 5:00 p.m.

Thursday, November 18th
7:30 a.m. - 10:00 a.m.

*(*Registration for workshop participants only)*

ANS Students' Professional Development Workshop (PDW)

NOTE: Registration for the workshop is separate from, and in addition to, the meeting registration fee. Use the advance meeting registration form (page 40) to register for the workshop. (Workshop Registration Fee: $15.00)

"ANS Students' PDW Reception"
Saturday, November 13, 2004
6:00 p.m.
Location: Palladian Ballroom

"How Can I Get the Most from my ANS Experience"
Sunday, November 14, 2004
8:00 a.m. - 12:00 p.m.
Location: Ambassador Ballroom

Held in conjunction with the ANS Winter Meeting, the Student Workshop is designed to provide students with a working understanding of ANS operations, ideas of how to get involved both technically and in Societal governance, and an opportunity to meet personally with leaders of the Society and the nuclear industry. Registration fee ($15) includes a Reception on Saturday evening and the Sunday morning workshop.

Saturday evening the student group will gather for a casual meal with leaders in the many sectors of the nuclear industry. Representatives from the power industry, research laboratories, the military, radionuclide applications industry, and others will offer their perspectives on the current job market. Students will have opportunities to interact with the representatives and ask questions regarding various career paths.

Sunday morning the workshop will explore the many aspects of membership in the American Nuclear Society. Discussions will include a general overview of the Society's various components and their relative functions. Avenues for student involvement will be stressed, including:

- Preparing and submitting technical papers
- Contributing to paper reviews
- Presenting talks in technical sessions
- Organizing technical sessions with the technical divisions
- Participation in Student Section Committee activities
- Governance opportunities
- Activities/ideas for student and local sections
- ANS affiliated student organizations/activities

Workshop participants are encouraged to also register for the main ANS meeting, attend technical sessions in their areas of interest, and participate in the mentor program.

Student Assistants Program

Attendance at the 2004 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 14th, 4:00-5:00 p.m. in Capitol Room

Meeting Information

of the Omni Shoreham Hotel. Student assistants receive free meeting registration and a copy of the meeting TRANSACTIONS. To apply for one of the 40 student assistant positions, complete and submit the forms posted on the ANS web site. For more information, contact Dr. Sama Bilbao y Leon at 804-273-2171 (phone) or Sama_Bilbao@dom.com (email); or contact the ANS Meetings Department at 708-579-8287. All students are responsible for paying their own room, tax and incidentals.Please refer to the ANS web site, www.ans.org, for more informaton about the meeting.

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 Director's Room of the Omni Shoreham Hotel.

First-Time Attendee Orientation

The ANS Membership Committee will offer an orientation session for 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.

The session will be held from 1:00-1:30 p.m. on Sunday, November 14th, in the Governor's Boardroom of the Omni Shoreham Hotel.

Mentoring Program

A special mentoring program will be held from 5:00-6:00 p.m. on Sunday, November 14th in the Embassy Room of the Omni Shoreham Hotel.

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.

To participate in the Mentoring Program, use the Mentor Registration Form on page 39.

Message Information Desk

For those who wish to reach an attendee at the meeting, call the hotel phone number at 202-234-0700 and ask for the ANS Message Desk.

Notice for Speakers

All speakers and session chairs must sign in at the "Speakers' Desk," located in the West Registration Foyer of the hotel (Sunday, November 14th through Thursday, November 18th).

A Speakers' Preview Room, the Committee Room of the hotel, will be available on Sunday (November 14th) from 12:00 p.m. - 6:00 p.m., on Monday (November 15th) through Wednesday (November 17th) from 7:00 a.m. - 4:00 p.m., and on Thursday (November 18th) from 7:00 a.m. - 12:00 p.m. Audio/visual equipment will be set up; so, that speakers may preview their presentation materials.

Conference Office

Location: Sales Conference Room

ANS Secretariat

Location: Executive Room

ANS Media Center

Monday, November 15th
7:45 a.m. - 4:00 p.m.

Tuesday, November 16th
8:00 a.m. - 4:00 p.m.

Wednesday, November 17th
8:00 a.m. - 4:00 p.m.

Location: Room #430

Spouse/Guest Hospitality

Spouse/guest hospitality breakfast will be served in the Presidential #325 of the Omni Shoreham Hotel from 8:00-10:00 a.m., Monday, November 15th through Wednesday, November17th. 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 ANS 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.

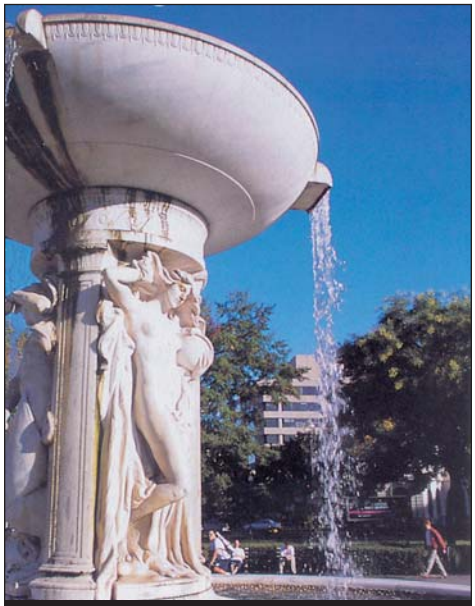
Attention Runners: ANS Fun Run

(organized by the NA YGN)

On Tuesday, November 16th, there will be a non-competitive run starting at 6:00 a.m. from the lobby of the hotel. We are looking forward to seeing you at the fun run in Washington, DC. Bring shoes and a big smile. We'll take care of the rest! For any further information, contact Mark Urso at phone number, 412-374-4349 or email, ursoma@westinghouse.com

DOE Nuclear Criticality Safety Program

Friday, November 19, 2004
8:00 a.m. - 4:00 p.m.
Location: Diplomat Ballroom
Please see page 34 for more information.



The DuPont Memorial Fountain, Commemorating Admiral Samuel Francis DuPont.

Accommodations

Omni Shoreham Hotel
(A special thank you to the photographer, Scott Dam.)

The Omni Shoreham Hotel will be the location for the 2004 ANS Winter Meeting, where all meeting activities, technical sessions and governance committee meetings will take place. The legendary Omni Shoreham Hotel, host to presidents, dignitaries and world leaders, has served as Washington, D.C.'s premier hotel since 1930. Guests from around the world are drawn to its elegant charm, exquisite guest quarters and distinguished meeting space. And with a central location, this historical landmark is a resort in the heart of the city, surrounded by 11 acres of lush landscaping, stately trees and winding walkways overlooking Rock Creek Park.

With a premier location in the heart of Washington, D.C., you're just minutes away from some of the most popular historical and cultural sites in America. Take the nearby metro (Woodley Park-Zoo Station on the Red Line) to the White House, the Smithsonian Institute and the quaint boutiques and cafes of Connecticut Avenue.

DINING

- *Roberts Restaurant*, a casually elegant restaurant acclaimed for its superb American Continental cuisine. Serving breakfast, lunch and dinner.
- *A Little Something Gourmet – To Go* is our one-stop convenience center for everything from coffee to sandwiches.
- *Marquee Bar and Lounge* is an elegant martini and cigar bar serving the finest imported beers on tap.
- *Pool Bar*, located on the pool deck, is open seasonally. Featuring light fare and beverage service.
- 24-hour guest room dining is available.

RECREATION AND LEISURE

- Spacious Fitness Center featuring multiple stations of Cybex equipment, free weights, stair climbers, stationary bicycles, elliptical runners and treadmills - (daily fee)
- Dry sauna and separate mens and womens locker rooms with private showers and lockers available
- Jogging trails and exercise stations throughout Rock Creek Park
- Golf courses nearby
- Get Fit Kit available at front desk, allows guests to work out in the privacy of their own room. Contains a floor mat, two dumbbells and elastic bands.
- Massages, facials, pedicures and manicures — available by appointment

Washington, D.C. Attractions

According to the latest figures, 21 million people visit Washington, D.C., each year. Most, no doubt, come here with the goal of seeing the major sights of the nation's capital, rather than getting to know the ins and outs of the city. But the two facets of the District's identity are intertwined, and D.C. is a city in its own right, with top-rated restaurants, museums, theaters, and attractions.

So sure, plan on visiting the Capitol, but make sure you get there by Metro. Tour the White House in the morning, but then follow it up with a stroll through the nearby Corcoran Gallery of Art, the city's oldest art museum. Climb to the top of a high landmark (say, the Washington Monument or Washington National Cathedral) and gaze at the city laid out before you, then climb back down and explore one of the neighborhoods you saw from above. Take in the zoo, and then find a sidewalk cafe where you can watch the passersby. Jog on the National Mall. Join a school tour in progress in the National Gallery. Flirt with a fellow browser in Kramerbooks, at Dupont Circle. Stay out until 2am carousing the clubs along Connecticut Avenue. Visit your senator or representative, then hang out in a bar on Capitol Hill, eavesdropping on political staffers. You get the picture: Do the tourist thing, then go native.

Taken from *The Travel Guide to Metro Washington, DC*

NEARBY ATTRACTIONS (from the Hotel)

- One block from the shopping and restaurants of Adams Morgan
- Two blocks to the National Zoo (free admission)
- Walking distance to the National Cathedral
- 5 minutes away from boating on the Potomac River
- 10 minutes to the National Mall, the Lincoln Memorial, Vietnam Veterans Memorial, the White House, the Capitol and Smithsonian Institute
- 10 minutes to Dupont Circle, the Kennedy Center for the Performing Arts, the National Gallery of Art and other national museums
- 10 minutes to the Tidal Basin, home of the Franklin Delano Roosevelt and Jefferson Memorials, as well as Washingtons famous cherry blossom trees
- A short cab ride to Georgetown, home of John and Jacqueline Kennedy before residing in the White House
- 8 miles/15 minutes to Ronald Reagan National Airport
- 30 miles/40 minutes to Dulles International Airport
- 45 miles/60 minutes from Baltimore-Washington International Airport

30 minutes to Mount Vernon, the estate of George and Martha Washington

Special Events and Tours

Don't be disappointed! Pre-registration is required for special events and tours. Space is limited. Register today!

CONFERENCE LUNCHEONS

Attendee Luncheon in the Nuclear Technology Expo
Monday, November 15, 2004
12:00 p.m. - 1:00 p.m.
LOCATION: Exhibit Hall

One ticket is included with the full meeting registration. Extra tickets can be purchased in advance or on-site at the ANS Registration Desk for $45.

Honors and Awards Luncheon
Tuesday, November 16, 2004
11:30 a.m. - 1:00 p.m.
Location: Regency Ballroom

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 in advance or on-site at the ANS Registration Desk for $45.

Nuclear Installations Safety Division (NISD) Luncheon
Wednesday, November 17, 2004
11:30 a.m. - 1:00 p.m.
Location: Private Dining Room

Tickets can be purchased in advance or on-site at the ANS Registration Desk for $45.

Materials Science and Technology Division (MSTD) Awards Luncheon
Wednesday, November 17, 2004
11:30 a.m. - 1:00 p.m.
Location: Chairman's Boardroom

Tickets can be purchased in advance or on-site at the ANS Registration Desk for $45.

EVENING EVENTS

ANS President's Reception in the Nuclear Technology Expo
Sunday, November 14, 2004
6:00 p.m. - 7:30 p.m.
Location: Exhibit Hall

The ANS President's Reception kicks off the meeting on Sunday, November 14th in the Exhibit Hall of the Hotel. One ticket to the ANS President's Reception is included in the full meeting registration fee. Additional tickets can be purchased in advance or on-site at the ANS Registration Desk for $65.

Please Note: The times listed are departure times and return times to/from the hotel. Busses will leave promptly from the Parkview Entrance of the Omni Shoreham Hotel, located just outside of the Blue Room.

***International Spy Museum** (© Mark Reinhart)*

Reception at the International Spy Museum
Monday, November 15, 2004
7:00 p.m. - 10:00 p.m.

Tonight, you will embark on a special guided tour of the International Spy Museum. Your mission will begin with an introduction to espionage – a tradecraft that has been used throughout time and around the world. Hear from spies in their own words describing the challenges and the "game" of spying. Exhibits in the museum will include a look at the life of spies and their cover identities, their gadgets, their skills for observation, analysis and surveillance. *The Secret History of History* traces through the centuries the "second oldest profession" and tells the story of spymasters like Harriet Tubman, George Washington, Elizabeth I and Joseph Stalin. *The Spies Among Us* focuses on the spy intelligence and code breaking used during World War II – how critical secrets were kept and lost. *The War of Spies* charters the modern conflict of a divided Berlin as world powers face off with spies as foot soldiers. See the pervasiveness of the Stasi Spies, where husbands even spied on wives! Trace the development of spy technology from spy planes to satellites. *21st Century* confronts the contemporary challenges that intelligence faces today, with a stop at the Ops Center to track current events and speak with an intelligence specialist.

You will enjoy a reception in the Ultra Room at the Spy Museum. The Ultra Room is surrounded by an elegant wall of large windows overlooking the Smithsonian National Portrait Gallery. The cuisine offered is a celebration of the cultural diversity and the natural bounty that defines our nation – straight forward American cuisine.

Tickets can be purchased in advance or on-site at the ANS Registration Desk for $50.

Operating Nuclear Facility Safety Banquet
Tuesday, November 16, 2004
7:00 p.m. - 9:00 p.m.
Location: Ambassador Ballroom

Tickets can be purchased in advance or on-site at the ANS Registration Desk for $65.

Reception at the British Embassy
Wednesday, November 17, 2004
7:00 p.m. - 10:00 p.m.

The present building on Massachusetts Avenue, built of red brick with stone dressings and high roofs crowned with tall chimneys, suggests an English country house of the Queen Anne period; this is how the British architect Sir Edwin Landseer Lutyens (1869-1944) conceived the design over 60 years ago. His many fine works include the Viceroy's House in New Delhi and the Whitehall Cenotaph in London, and he built and planned over 300 houses and buildings in Britain, Belgium, East Germany, France, Hungary, Italy and South Africa. The British Ambassador's Residence is the only example of his work seen in the United States.

Lutyens knew that his Residence was not only an official building but also the home of a succession of Her Majesty's Representatives, each of whom would bring their personal possessions and their personalities to the interior decoration and atmosphere of his structure. The last major redecoration of the Residence took place under the guidance of Lady Meyer, wife of Sir Christopher Meyer, who was Ambassador from 1996 to 2003. New bathrooms were put in, the bedrooms redesigned and the reception rooms redecorated. Some of the paintings were removed for conservation and a new selection hung.

Lutyens design for the Residence remains supremely functional and comfortable, as well as impressive. There can be no doubt of this in the minds of the thousands of visitors and guests who attend official functions and enjoy this unique house as well as the fortunate Ambassadors and their families who live in it.

Tickets can be purchased in advance or on-site at the ANS Registration Desk for $50.

SPOUSE/GUEST TOURS

"Welcome to Washington"

Monday, November 15, 2004
1:00 p.m. - 5:00 p.m.

This program is designed as an introduction to the city of Washington, DC. You will travel down the famous parade route of Pennsylvania Avenue passing notable buildings such as the Federal Triangle government buildings, the J. Edgar Hoover FBI Building, the landmark Old Post Office Pavilion and arriving to Capital Hill and the U.S. Capitol Building. Here you will circle the magnificent U.S. Capitol Building – whose dome dominates the city and is considered perhaps one of the most architecturally beautiful structures in Washington. Included on Capital Hill is the Supreme Court of the United States building and the majestic Library of Congress. Proceeding on to the nearby National Mall you will pass many of the buildings belonging to the Smithsonian Institution including the National Air and Space Museum, the National Gallery of Art, the National History Museum and the National Museum of American History. As you pass the towering Washington Monument, you will soon arrive at the Lincoln Memorial where you will stop to admire the tall and brooding statue of Abraham Lincoln. A short 5-minute walk from the Lincoln Memorial brings you to the powerful and moving Vietnam Veterans Memorial. The names of the men and women killed or missing as a result of the Vietnam War are engraved on the somber, polished black granite walls. Next, you will proceed to Washington's newest veterans' memorial, The Korean War Veterans' Memorial, a moving tribute to the Americans and people from other nations who sacrificed and served for the cause of freedom and the defense of the republic of South Korea. Your next stop will be to experience the new National World War II Memorial, opening on May 29, 2004. The National World War II Memorial will be the first national memorial dedicated to all who served during World War II. The memorial will honor all military veterans of the war, the citizens on the home front, the nation at large, and the high moral purpose and idealism that motivated the nation's call to arms. The Second World War will be the only 20th century event commemorated on the Mall's central axis.

As you re-board your motor-coach, the tour will continue past the Jefferson Memorial, a temple-like structure dedicated to our third president. The memorial sits beside the Tidal Basin, home of the world famous Japanese Cherry Blossom Trees. Nearby, you'll stop at the Franklin Delano Roosevelt Memorial, the newest and the fourth monument to an American President on the National Mall. The memorial, a landscape of four outdoor rooms with granite walls, statuary, inscriptions, water falls and thousands of plants, shrubs and trees, invites visitors to walk through and contemplate an artistic narrative of history from 1933-1945. American sculptors, whose work in bronze bas-relief and sculptured figures related memories of the man and his times, portray each of Roosevelt's four terms in office.

After departing the FDR Memorial, your group will cross over the Memorial Bridge, pass Arlington National Cemetery and head up to the Marine Corps War Memorial, otherwise known as the Iwo Jima Memorial. The Marine Corps War Memorial stands as a symbol of this grateful Nation's esteem for the honored dead of the U.S. Marine Corps. While the statue depicts one of the most famous incidents of World War II, the memorial is dedicated to all Marines who have given their lives in the defense of the United States since 1775. The memorial depicts a photograph taken on February 23, 1945 on the island of Iwo Jima after it had been captured by the United States in the Pacific campaign during World War II. Beautiful views of the national monuments and the DC skyline can also be seen from this location.

Time permitting, your final stop will be the John F. Kennedy Center for the Performing Arts, the only monument to the late President Kennedy that is located in our nation's capital. You will be awed by its splendor and magnificence, as well as by the view from atop the terrace where the city, the Potomac River, and the Georgetown waterfront all stretch out below. This will conclude an inside look at what Washington, DC has to offer with regard to unmatched architecture, history, patriotism and democracy.

Tickets can be purchased in advance or on-site at the ANS Registration Desk for $30.

Top Photo:
A Panoramic View of Washington, D.C.

Far Left Photo:
Washington Monument

Left Photo:
Atlantic Pillar, World War II Memorial

All images © Mark Reinhart

Special Events and Tours

"Celebrated Gardens and Great Estates"
Tuesday, November 16, 2004
9:30 a.m. - 2:00 p.m.

Tudor Place Historic House and Garden
***Main House** (© Mark Reinhart)*

Today, guests will tour through some of the city's most celebrated residences and stroll through their lovely gardens. The first stop will be Tudor Place, located on five acre in the heart of historic Georgetown. This federal style home designed by Dr. William Thornton, first architect of the Capitol, for Martha Parke Custis, granddaughter of Martha Washington, and her husband Thomas Peter, son of the first mayor of Georgetown. It was built in adjoining sections dating from late 1700 to 1816. Tudor Place is typical of a prominent

Tudor Place Historic House and Garden
Circular Garden and Circular Fountain
(© Mark Reinhart)

Washington family's residence, spanning three centuries of style and design. Household furnishings include artifacts from Mt. Vernon brought to the residence by Martha Parke Custis. Guests will enjoy a docent-guided tour of the house and then time on their own to explore the gardens.

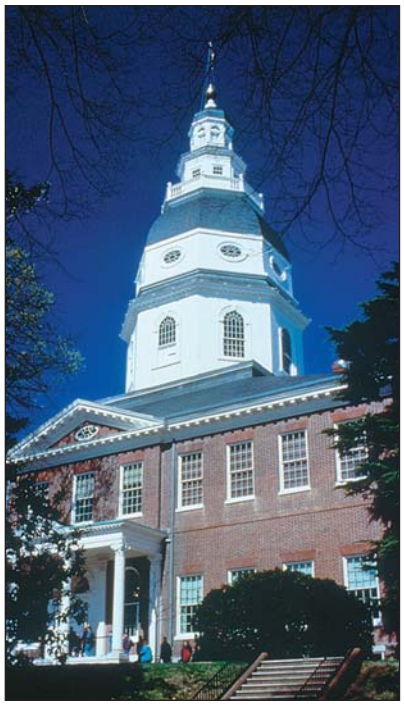
Following Tudor Place, you reboard your awaiting coach and enjoy a riding tour of Georgetown's charming residential streets. The exquisite gardens of Dumbarton Oaks will be your next stop. Dumbarton Oaks is a palatial, walled estate on 16 acres of Georgetown land. The estate was privately owned from 1800, when the mansion was built, until 1940, when the last private owners gave the property to Harvard University. Today the estate serves as a museum and research center for Harvard scholars of Pre-Columbian and Byzantine art. Dumbarton Oaks Gardens are

***Photos - clockwise, top left: Dumbarton Oaks – Oak Tree; Pebble Garden; and Fountain** (© Mark Reinhart)*

among the most beautiful in North America and are spectacular in all seasons.

Tickets can be purchased in advance or on-site at the ANS Registration Desk for $58. (Lunch is included.)

"Annapolis: Highlighting the U.S. Naval Academy"
Wednesday, November 17, 2004
9:00 a.m. - 4:00 p.m.



You will depart the busy port city of Baltimore for a 45-minute ride to the capital of Maryland, nestled on the Severn River, at the mouth of the Chesapeake Bay. As you relax, you can ready yourself for this wonderful walking tour of Annapolis, "A Town of Three Centuries," with a town map. When you arrive in Annapolis, you will begin your stroll of this alive colonial town at the Maryland State House, the oldest in continuous use, where you will see the Old Senate Chamber where George Washington resigned his commission as Commander-in-chief of the Continental armies, and where the Treaty of Paris, ending the Revolutionary War was signed. The stroll will continue to the campus of St. John's College, the third oldest college in the nation and the site of the famous Liberty Tree, where the Sons of Liberty met to plan to overthrow the colonial government. You will also be able to view the architecture of the Hammond-Harwood House and the Chase-Lloyd House. Continuing the walking tour, the next stop will be the United States Naval Academy and the Academy Chapel. Beneath the chapel is the crypt with the sarcophagus of John Paul Jones, the father of the U.S. Navy. See well-known sights at the Academy including the world's largest dormitory, Bancroft Hall, with its huge ceremonial halls. You'll be on your own for lunch at one of the many restaurants or pubs that line the Annapolis Waterfront where fashionable Annapolitans dock their sailboats. Save some time for browsing in the shops and boutiques that line the cobblestone streets. After this event-filled day, enjoy the comfortable ride back to the hotel.

Tickets can be purchased in advance or on-site at the ANS Registration Desk for $40.

Far Left: Maryland State House

Above: USNA - Bancroft Hall

Right: Typical Midshipman's Room

USNA Photos – © Mark Reinhart

Sessions by Track

(Asterisks indicate special sessions.)

Track 1: Leadership Toward a Progressive, Integrated Nuclear Community—Going Forward Together

*ANS Opening Plenary: Nuclear in the 21st Century—Going Forward Together, Mon. a.m. (8:00 a.m. - 12:00 p.m.)

*General Chair's Special Session: Atoms for Prosperity—The Next Ten Years, Mon. p.m. (4:00-6:00 p.m.)

*ANS President's Special Session: Energy and the Environment: Golden Opportunities for the Next 50 Years, Tues. p.m. (4:00-6:00 p.m.)

*Technical Program Chair's Special Session: Taking the Lead on Critical Issues, Wed. p.m. (4:00-6:00 p.m.)

Track 2: Nuclear Plant Systems, Operations, and New Construction

*Cost Benefits of Risk Information–Panel, Tues. a.m.

Alternative Source Term Applications to Improve Power Reactor Safety Analysis, Tues. a.m.

Knowledge Conversion and Transfer–Papers/Panel, Wed. a.m.

Challenges Facing the Young Generation in Nuclear–Panel, Wed. p.m.

*Hot Topics and Emergent Issues in Power Generation: Update on Security Issues–Paper/Panel, Mon. p.m.

Status of Risk-Informing 10 CFR 50, Tues. p.m.

Lessons Learned for the Design and Construction of New Nuclear Facilities–Panel, Mon. p.m.

Track 3: Environment, Safety, and Health

Environmental Sciences: General, Wed. p.m.

Environmental Aspects of Legacy Material Management, Thurs. a.m.

Track 4: Nuclear Engineering Science

Hydrogen Production and Storage, Wed. a.m.

Computational Methods: General, Tues. p.m.

Transport Methods: General, Tues. a.m.

Roundtable on Current Issues in Computational Methods–Panel, Wed. p.m.

*Geometry Representation for Monte Carlo Radiation Transport Codes, Wed. a.m.

Thermal-Hydraulic Code Development and Applications, Thurs. a.m.

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

Reactor Analysis Methods, Thurs. a.m.

*High-Performance Computing for Nuclear Energy Applications, Mon. p.m.

Track 5: Nonproliferation and Homeland Security

*Emergency Preparedness and Response, Wed. a.m.

Nuclear Power and Nuclear Security Strategies for Managing the Dissemination of Sensitive Nuclear Technology–Paper/Panel, Tues. a.m.

Methodologies for Assessment of Proliferation Resistance and Physical Protection, Wed. a.m.

Track 6: Life Extension, Future Reactors, Reutilization, and Decommissioning

Advanced Nuclear Energy Systems Research and Development, Including Nuclear Power 2010—I, Wed. p.m.

Advanced Nuclear Energy Systems Research and Development, Including Nuclear Power 2010—II, Thurs. a.m.

Reactor Analysis for the ACR-700 and Gas-Cooled Reactors, Wed. a.m.

Regulatory Framework in Commercial and Government Decommissioning: Initiating Decontamination and Decommissioning Activities–Papers/Panel, Tues. a.m.

Regulatory Framework in Commercial and Government Decommissioning: Closure Activities–Papers/Panel, Tues. p.m.

Decommissioning: Hot Topics and Emerging Issues–Papers/Panel, Thurs. a.m.

Decommissioning: General Topics–Papers/Panel, Wed. a.m.

Life After Decommissioning, Site/Facility Reutilization–Panel, Mon. p.m.

*Sustainable Energy Supply for the 21st Century–Papers/Panel, Mon. p.m.

Track 7: Fuel Cycles and Materials

Fuel Cycle Safety and University-Supported Research, Wed. a.m.

*Accelerator-Based Experiments for Advanced Fuel Cycle Initiative Research, Tues. a.m.

Progress in Development of Transmutation Fuels, Wed. p.m.

Advances in Materials Testing and Analysis, Wed. p.m.

Development and Testing of Fuels for Advanced Reactors, Thurs. a.m.

Spent-Fuel Disassembly and Head-End Treatment Developments—I, Mon. p.m.

Spent-Fuel Disassembly and Head-End Treatment Developments—II, Tues. p.m.

Partitioning/Transmutation Systems for Repository Benefits, Thurs. a.m.

Track 8: Radiation Protection and Shielding, Nuclear Criticality Safety, and Reactor Physics

Reactor Physics Advances for High-Temperature, Gas-Cooled Systems, Tues. a.m.

*Cross-Section Evaluation Working Group and Nuclear Data: The Legacy of Sol Pearlstein, Mon. p.m.

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

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

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

Nuclear Criticality Safety for Decontamination and Decommissioning Activities, Tues. p.m.

Activities to Meet Regulatory Expectations, Tues. p.m.

Nondestructive Analysis (NDA) for Nuclear Criticality Safety—I–Tutorial, Wed. a.m.

Nondestructive Analysis (NDA) for Nuclear Criticality Safety—II–Tutorial, Wed. p.m.

Advances in Depletion Methods Based on Multidimensional Transport, Tues. p.m.

Funding Opportunities at the National Institutes of Health–Panel, Mon. p.m.

Medical Applications in Radiation Protection and Shielding, Wed. p.m.

Recent Developments in Radiation Protection and Shielding, Wed. a.m.

New Computational Approaches and Results in Shielding Applications, Tues. p.m.

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

*Reactor Physics: General—I, Tues. p.m.

Reactor Physics: General—II, Wed. p.m.

Track 9: Nonpower, Nonreactor, Medical, and Radiation Applications and Facilities

Safety Hazard Experience in Design and Construction of Nonreactor Nuclear Facilities, Wed. p.m.

*Equipment and Methods for Gamma Spectrometry, Wed. a.m.

*University Radiochemistry and Nuclear Chemistry Programs, Tues. a.m.

*Nuclear Analytical Techniques, Wed. p.m.

*Nuclear Methods in Human Health and Clinical Research, Tues. p.m.

*Labeling and Quality Control of Radiopharmaceutical Compounds, Thurs. a.m.

*Radiochemical and Nuclear Analytical Methods and Applications, Mon. p.m.

Track 10: Emerging Nuclear Technologies

U.S. Department of Energy Nuclear Engineering Education Research: Highlights of Recent and Current Research—I, Mon. p.m.

U.S. Department of Energy Nuclear Engineering Education Research: Highlights of Recent and Current Research—II, Tues. a.m.

General Space Technology Interests, Tues. a.m.

Project Prometheus Overview: Nuclear Science and Technology in Space–Panel, Tues. p.m.

Track 11: Education and Communication

Education and Training: General, Tues. p.m.

Training, Human Performance, and Workforce Development, Tues. p.m.

*Student Design Competition, Mon. p.m.

*Training Excellence Awards–Panel, Tues. p.m.

Innovations in Nuclear Engineering Education, Training, and Distance Learning, Wed. p.m.

INIE: Innovations in Nuclear Infrastructure and Education Program Experience, Wed. a.m.

University Partnerships, Thurs. a.m.

Pronuclear Communications, Mon. p.m.

Minimizing Risks in Communication with the Media–Panel, Thurs. a.m.

2004 Nuclear Innovations Program Review–Panel, Mon. p.m.

*International Collaboration in Nuclear Engineering Education and Training–Panel, Thurs. a.m.

Track 12: Special Symposium on Global Climate Change and the Energy Sector

*Recent Perspectives on Global Climate Change Research–Panel, Tues. a.m.

*Potential Impacts of Global Climate Change on the Energy Sector: Status of Implementing the Kyoto Protocol–Panel, Tues. p.m.

Sessions by Division

(Asterisks indicate special sessions. Parenthesis indicate cosponsorship.)

Special Sessions

*ANS Opening Plenary: Nuclear in the 21st Century—Going Forward Together, Mon. a.m. (8:00 a.m. - 12:00 p.m.)

*General Chair's Special Session: Atoms for Prosperity—The Next Ten Years, Mon. p.m. (4:00-6:00 p.m.)

*ANS President's Special Session: Energy and the Environment: Golden Opportunities for the Next 50 Years, Tues. p.m. (4:00-6:00 p.m.)

*Technical Program Chair's Special Session: Taking the Lead on Critical Issues, Wed. p.m. (4:00-6:00 p.m.)

Accelerator Applications (AAD)

(*Radiochemical and Nuclear Analytical Methods and Applications, Mon. p.m.)

*Accelerator-Based Experiments for Advanced Fuel Cycle Initiative Research, Tues. a.m.

Biology and Medicine (BMD)

(*Radiochemical and Nuclear Analytical Methods and Applications, Mon. p.m.)

(*University Radiochemistry and Nuclear Chemistry Programs, Tues. a.m.)

*Nuclear Methods in Human Health and Clinical Research, Tues. p.m.

*Nuclear Analytical Techniques, Wed. p.m.

*Labeling and Quality Control of Radiopharmaceutical Compounds, Thurs. a.m.

Decommissioning, Decontamination, and Reutilization (DDRD)

Life After Decommissioning, Site/Facility Reutilization–Panel, Mon. p.m.

Regulatory Framework in Commercial and Government Decommissioning: Initiating Decontamination and Decommissioning Activities–Papers/Panel, Tues. a.m.

Regulatory Framework in Commercial and Government Decommissioning: Closure Activities–Papers/Panel, Tues. p.m.

Decommissioning: General Topics–Papers/Panel, Wed. a.m.

Decommissioning: Hot Topics and Emerging Issues–Papers/Panel, Thurs. a.m.

Environmental Sciences (ESD)

*Sustainable Energy Supply for the 21st Century–Papers/Panel, Mon. p.m.

Recent Perspectives on Global Climate Change Research–Panel, Tues. a.m.

*Potential Impacts of Global Climate Change on the Energy Sector: Status of Implementing the Kyoto Protocol–Panel, Tues. p.m.

Hydrogen Production and Storage, Wed. a.m.

*Emergency Preparedness and Response, Wed. a.m.

Environmental Sciences: General, Wed. p.m.

Environmental Aspects of Legacy Material Management, Thurs. a.m.

Education and Training (ETD)

*Student Design Competition, Mon. p.m.

Pronuclear Communications, Mon. p.m.

2004 Nuclear Innovations Program Review–Panel, Mon. p.m.

(*University Radiochemistry and Nuclear Chemistry Programs, Tues. a.m.)

*Training Excellence Awards–Panel, Tues. p.m.

Training, Human Performance, and Workforce Development, Tues. p.m.

Education and Training: General, Tues. p.m.

INIE: Innovations in Nuclear Infrastructure and Education Program Experience, Wed. a.m.

Innovations in Nuclear Engineering Education, Training, and Distance Learning, Wed. p.m.

University Partnerships, Thurs. a.m.

Minimizing Risks in Communication with the Media–Panel, Thurs. a.m.

*International Collaboration in Nuclear Engineering Education and Training–Panel, Thurs. a.m.

Fuel Cycle and Waste Management (FCWMD)

Spent-Fuel Disassembly and Head-End Treatment Developments—I, Mon. p.m.

Nuclear Power and Nuclear Security Strategies for Managing the Dissemination of Sensitive Nuclear Technology–Paper/Panel, Tues. a.m.

(*Accelerator-Based Experiments for Advanced Fuel Cycle Initiative Research, Tues. a.m.)

Spent-Fuel Disassembly and Head-End Treatment Developments—II, Tues. p.m.

Methodologies for Assessment of Proliferation Resistance and Physical Protection, Wed. a.m.

Fuel Cycle Safety and University-Supported Research, Wed. a.m.

Progress in Development of Transmutation Fuels, Wed. p.m.

Partitioning/Transmutation Systems for Repository Benefits, Thurs. a.m.

Fusion Energy (FED)

U.S. Department of Energy Nuclear Engineering Education Research: Highlights of Recent and Current Research—I, Mon. p.m.

U.S. Department of Energy Nuclear Engineering Education Research: Highlights of Recent and Current Research—II, Tues. a.m.

Isotopes and Radiation (IRD)

*Radiochemical and Nuclear Analytical Methods and Applications, Mon. p.m.

*University Radiochemistry and Nuclear Chemistry Programs, Tues. a.m.

*Equipment and Methods for Gamma Spectrometry, Wed. a.m.

(*Nuclear Analytical Techniques, Wed. p.m.)

Sessions by Division

Mathematics and Computation (MCD)

*High-Performance Computing for Nuclear Energy Applications, Mon. p.m.

Transport Methods: General, Tues. a.m.

Computational Methods: General, Tues. p.m.

*Geometry Representation for Monte Carlo Radiation Transport Codes, Wed. a.m.

Roundtable on Current Issues in Computational Methods–Panel, Wed. p.m.

Materials Science and Technology (MSTD)

(Progress in Development of Transmutation Fuels, Wed. p.m.)

Advances in Materials Testing and Analysis, Wed. p.m.

Development and Testing of Fuels for Advanced Reactors, Thurs. a.m.

Nuclear Criticality Safety (NCSD)

(*Cross-Section Evaluation Working Group and Nuclear Data: The Legacy of Sol Pearlstein, Mon. p.m.)

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

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

Nuclear Criticality Safety for Decontamination and Decommissioning Activities, Tues. p.m.

Activities to Meet Regulatory Expectations, Tues. p.m.

Advances in Depletion Methods Based on Multidimensional Transport, Tues. p.m.

Nondestructive Analysis (NDA) for Nuclear Criticality Safety—I–Tutorial, Wed. a.m.

Nondestructive Analysis (NDA) for Nuclear Criticality Safety—II–Tutorial, Wed. p.m.

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

Nuclear Installations Safety (NISD)

Lessons Learned for the Design and Construction of New Nuclear Facilities–Panel, Mon. p.m.

Alternative Source Term Applications to Improve Power Reactor Safety Analysis, Tues. a.m.

Status of Risk-Informing 10 CFR 50, Tues. p.m.

Reactor Analysis for the ACR-700 and Gas-Cooled Reactors, Wed. a.m.

Safety Hazard Experience in Design and Construction of Nonreactor Nuclear Facilities, Wed. p.m.

Operations and Power (OPD)

*Hot Topics and Emergent Issues in Power Generation: Update on Security Issues–Paper/Panel, Mon. p.m.

*Cost Benefits of Risk Information–Panel, Tues. a.m.

Knowledge Conversion and Transfer–Papers/Panel, Wed. a.m.

Challenges Facing the Young Generation in Nuclear–Panel, Wed. p.m.

Advanced Nuclear Energy Systems Research and Development, Including Nuclear Power 2010—I, Wed. p.m.

Advanced Nuclear Energy Systems Research and Development, Including Nuclear Power 2010—II, Thurs. a.m.

Reactor Physics (RPD)

*Cross-Section Evaluation Working Group and Nuclear Data: The Legacy of Sol Pearlstein, Mon. p.m.

Reactor Physics Advances for High-Temperature, Gas-Cooled Systems, Tues. a.m.

*Reactor Physics: General—I, Tues. p.m.

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

Reactor Physics: General—II, Wed. p.m.

Reactor Analysis Methods, Thurs. a.m.

Radiation Protection and Shielding (RPSD)

(*Cross-Section Evaluation Working Group and Nuclear Data: The Legacy of Sol Pearlstein, Mon. p.m.)

Funding Opportunities at the National Institutes of Health–Panel, Mon. p.m.

New Computational Approaches and Results in Shielding Applications, Tues. p.m.

Recent Developments in Radiation Protection and Shielding, Wed. a.m.

Medical Applications in Radiation Protection and Shielding, Wed. p.m.

Thermal Hydraulics (THD)

(U.S. Department of Energy Nuclear Engineering Education Research: Highlights of Recent and Current Research—I, Mon. p.m.)

(U.S. Department of Energy Nuclear Engineering Education Research: Highlights of Recent and Current Research—II, Tues. a.m.)

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

Thermal-Hydraulic Code Development and Applications, Thurs. a.m.

Aerospace Nuclear Science and Technology (ANST)

General Space Technology Interests, Tues. a.m.

Project Prometheus Overview: Nuclear Science and Technology in Space–Panel, Tues. p.m.

NOTE:

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

MONDAY • NOVEMBER 15, 2004

7:30 A.M. - 5:00 P.M.	**MEETING REGISTRATION**
8:00 A.M. - 10:00 A.M.	**SPOUSE/GUEST HOSPITALITY BREAKFAST**
8:00 A.M. - 12:00 P.M.	**ANS WINTER MEETING OPENING PLENARY** "Nuclear in the 21st Century—Going Forward Together"
11:00 A.M. - 6:00 P.M.	**NUCLEAR TECHNOLOGY EXPO**
12:00 P.M. - 1:00 P.M.	**ATTENDEE LUNCHEON IN NUCLEAR TECHNOLOGY EXPO**
1:00 P.M. - 4:00 P.M.	**2004 WINTER MEETING TECHNICAL SESSIONS** • High-Performance Computing for Nuclear Energy Applications • Lessons Learned for the Design and Construction of New Nuclear Facilities–Panel • Cross-Section Evaluation Working Group and Nuclear Data: The Legacy of Sol Pearlstein • Hot Topics and Emergent Issues in Power Generation: Update on Security Issues–Paper/Panel • Sustainable Energy Supply for the 21st Century–Papers/Panel • Funding Opportunities at the National Institutes of Health–Panel • Life After Decommissioning, Site/Facility Reutilization–Panel • Spent-Fuel Disassembly and Head-End Treatment Developments—I • Radiochemical and Nuclear Analytical Methods and Applications • U.S. Department of Energy Nuclear Engineering Education Research: Highlights of Recent and Current Research—I • Student Design Competition • Pronuclear Communications • 2004 Nuclear Innovations Program Review–Panel
1:00 P.M. - 4:00 P.M.	**2004 ONFS PLENARY SESSION** (see page 31)
1:00 P.M. - 5:00 P.M.	**BE2004 PLENARY SESSION** (see page 29)
1:00 P.M. - 5:00 P.M.	**SPOUSE/GUEST TOUR** "Welcome to Washington"
4:00 P.M. - 6:00 P.M.	**RECEPTION IN NUCLEAR TECHNOLOGY EXPO**
4:00 P.M - 6:00 P.M.	**GENERAL CHAIR'S SPECIAL SESSION** "Atoms for Prosperity - The Next Ten Years"
7:00 P.M.- 10:00 P.M.	**EVENING EVENT** Reception at the International Spy Museum

MONDAY, NOVEMBER 15, 2004 • 8:00 A.M.

ANS Opening Plenary: Nuclear in the 21st Century—Going Forward Together [Track 1] *Session Chair:* William D. Magwood, IV *(U.S. DOE)*

Part I - 8:00 a.m. - 10:30 a.m.

INVITED SPEAKERS:

- Kyle E. McSlarrow *(Deputy Energy Secretary, U.S. DOE)*
- Donald J. Johnston *(Secretary General, OECD)*
- Theron M. Bradley, Jr. *(Chief Engineer, NASA)*
- Nils J. Diaz *(Chairman, U.S. NRC)*
- Additional speaker to be determined

Part II - 10:30 a.m. - 12:00 p.m.

PANEL DISCUSSION

Reviewing the Election Results: The Path Forward to an Energy Policy in the U.S.

MONDAY, NOVEMBER 15, 2004 • 1:00 P.M.

High-Performance Computing for Nuclear Energy Applications, sponsored by MCD. [Track 4] *Session Organizer:* David Weber *(ANL)*. All invited

Computational Science: A Research Methodology for the 21st Century High End Computing, Michael Strayer *(DOE)*

Integrated High-Fidelity Whole-Core Simulations for a Small PWR on Massively-Parallel Platforms, Tanju Sofu, David Weber *(ANL)*

Computational Material Science Tools for Predicting the Performance of Fuels and Materials, Ronald F. Kulak, Dieter Wolf *(ANL)*, Ronald DiMelfi *(Materials Research & Development)*

CFD, Clusters and Nuclear Engineering, Rizwan-uddin, Yizhou Yan *(Univ of Illinois)*

Challenges in High Performance Computing: Case of the Method of Discrete Ordinates for Particle Transport Problems, Yousry Youssef Azmy *(Penn State)*

High Performance Computing and Monte Carlo, Forrest B. Brown *(LANL)*, William R. Martin *(Univ of Michigan)*

Turbulent Flow Simulations with Large Eddy Technique in Industrial Nuclear Applications, Yassin A. Hassan *(Texas A&M)*

Lessons Learned for the Design and Construction of New Nuclear Facilities– Panel, sponsored by NISD. [Track 2] *Session Organizer:* Herbert Massie, Jr. *(DNFSB)*

PANELISTS:

- Joe Olencz *(NNSA)*
- Dick Raaz *(Washington Grp Int)*
- Roy Schepens *(DOE)*
- Drew Presinko *(NRC)*
- Matt Moury *(DNFSB)*

Cross-Section Evaluation Working Group and Nuclear Data: The Legacy of Sol Pearlstein, sponsored by RPD; cosponsored by RPSD, NCSD. [Track 8] *Session Organizer:* Russell D. Mosteller *(LANL)*

Personal Reminiscences of Sol Pearlstein, Charles L. Dunford *(BNL)*, invited

When Even Pearlstein the "Purist" Engaged in Adjustment, Jekutiel Jehudah Wagschal, Yehuda Yeivin *(Hebrew Univ)*, invited

Statistical Properties of the s- and p-Wave Resonances of ^{238}U, Luiz Leal *(ORNL)*

Tritium Production in ^{6,7}Li from 14-MeV Neutrons, Stephanie C. Frankle, Jason Harp *(LANL)*

Benchmark for Beryllium Thermal Neutron Scattering Cross Sections, Tong Zhou, Ayman I. Hawari, Bernard W. Wehring, Victor Hugo Gillette, Iyad I. Al-Qasir *(NCSU)*

Cross Section Testing with HEU and LEU Thermal Solution ICSBEP Benchmarks, Albert (Skip) Kahler *(BAPL)*

Sensitivity Analysis for the Np-237 and HEU Fast System Reflected by Low Carbon Steel, David J. Loaiza, Rene G. Sanchez, David Hayes *(LANL)*

Analysis of the Fourth Zeus Critical Experiment, Russell D. Mosteller *(LANL)*

Hot Topics and Emergent Issues—Status on the Security as a Whole in the United States–Paper/Panel, sponsored by OPD. [Track 2] *Session Organizers:* Don Eggett *(AES Corp)*, Douglas Walters *(NEI)*

A Cyber Security Self-Assessment Method for Nuclear Power Plants, Clifford Steven Glantz, Garill Coles, Robert B. Bass *(PNNL)*

PANEL DISCUSSION

PANELISTS:

- Doug Walters *(NEI)*
- Representative from NRC - TBD
- Representative from the Department of Homeland Security - TBD
- Representative from DOE - TBD

Sustainable Energy Supply for the 21st Century–Papers/Panel, sponsored by ESD. [Track 6]

Sustainability of Nuclear and Alternative Energy Sources, Laurence Miller, Robert Eugene Uhrig, Vijaya Kantubhukya, Scott Outten, Matthew Miller, Mario Fontana *(Univ of Tennessee)*, Ralph Boroughs *(TVA)*

Sustainability, Water, Dry Cooling, and the Advanced High-Temperature Reactor, Charles Forsberg *(ORNL)*, Per Peterson, Haihua Zhao *(Univ of California, Berkeley)*

The Synergetic Effects of a Nuclear-Assisted Gas Turbine Power Cycle, Yong Hoon Jeong, Pradip Saha, Mujid S. Kazimi *(MIT)*

Material Input for Advanced Brayton Cycle Power Conversion Systems, Per Peterson, Haihua Zhao *(Univ of California, Berkeley)*

An Overview of the Hydrogen Economy, Jim Miller *(ANL)*

PANEL DISCUSSION
PANELISTS:
- Jorge Spitalnik *(UPADI)*
- Maximillian G. Gorensek *(Westinghouse SRC)*

Funding Opportunities at the National Institutes of Health–Panel, sponsored by RPSD. [Track 8] *Session Organizer:* Bernadette Kirk *(ORNL)*

PANELISTS:
- Richard Swaja *(NIBIB/NIH)*
- Jim Deye *(NCI/NIH)*
- Other panelists to be determined.

Life After Decommissioning, Site/Facility Reutilization–Panel, sponsored by DDRD. [Track 6] *Session Organizer:* Larry Boing *(ANL)*

PANELISTS:
- Larry Boing *(ANL)*
- Richard Fil *(Robinson & Cole LLP)*
- Micky Thomas *(Maine Yankee)*
- Jim Fields *(SMUD/Rancho Seco)*
- Alan Neal *(UKAEA)*
- Other panelists to be determined.

Spent-Fuel Disassembly and Head-End Treatment Developments—I, sponsored by FCWMD. [Track 7]

Spent Nuclear Fuel Cladding Management: The La Hague Reprocessing Plant Experience, Anne Cocaud, Dominique Guilloteau *(COGEMA)*, Houdin Patrice *(SGN Groupe AREVA)*

Advanced Head-End Processing of Spent Fuel: A Progress Report, Guillermo Del Cul, Rodney D. Hunt, Barry Spencer, Emory D. Collins *(ORNL)*, Kenneth Bateman, Karen Howden, Brian R. Westphal *(ANL)*

Conceptual Design for a Fuel Element Disassembly-Decladding System, Harold Burton, Joe Signorelli *(Scientech)*

Radioactivity Reduction Method for Hulls from DUPIC Fuel Fabrication Process, Jong-Ho Kim *(KAERI)*

Treatment of Fuel Assembly and Decladding Waste by Chlorination, Yoshiyuki Yasuike *(IR&I)*

Study on Construction Cost Evaluation Method of Fuel Cycle Facilities, Keiji Fujii *(JNC)*, Kazuo Yoshida *(CRIEPI)*, Nobuhisa Okuyama, Sumio Kawakami, Hiroaki Hayashi, Yoshiaki Ishiro *(Toyo Eng)*

Radiochemical and Nuclear Analytical Methods and Applications, sponsored by IRD; cosponsored by BMD, AAD. [Track 9] *Session Organizer:* Stephen Philip LaMont *(Westinghouse SRC)*

Photonuclear Activation at the Pantex Plant, Gilbert L. Rendon *(BWXT Pantex)*

Development of Optical Parametric Amplifier for Laser-Based Radiation Sources, Tatjana Jevremovic, Shaun Clarke *(Purdue Univ)*, Igor Jovanovic *(LLNL)*

Fission Products and Actinide Radioactivity Inventory Analysis of the MIT Research Reactor, Lin-Wen Hu *(MIT)*

Isotopic Ratios for Nuclear Fuel Cycle Analysis Applicable to AMS, Steven Biegalski, Scott Whitney *(Univ of Texas, Austin)*

In Vitro Lung Dissolution Rate of PuO_2, Stephen Philip Lamont, T. LaBone, J. Cadieux, W. Findley *(Westinghouse SRC)*

Validation of a New Kit for Easy Thermal and Epithermal Neutron Flux Monitoring, M.J.J. Koster-Ammerlaan *(Delft UT)*, Márcio A. Bacchi *(Univ of São Paulo, CENA)*, Peter Bode *(Delft UT)*, Elisabete A. De Nadai Fernandes *(Univ of São Paulo)*, invited

Development of Ultratrace Methods for the Determination of Thorium in a Dry Tube Irradiation Facility, Sam E. Glover, Henry B. Spitz, John Gels *(Univ of Cincinnati)*, invited

Micelle-Aided Extraction of Radionuclides from a Contaminated Organic Phase, Cameron J. Shepherd *(Claremont High School)*, Stephen Philip LaMont *(Westinghouse SRC)*, Stephen H. Shepherd *(Edison Int)*

U.S. Department of Energy Nuclear Engineering Education Research: Highlights of Recent and Current Research—I, sponsored by FED; cosponsored by THD. [Track 10] *Session Organizer:* Kathy McCarthy *(INEEL)*

Q-value Summing for Coincidence Prompt Gamma-Ray Neutron Activation Analysis, Robin P. Gardner, Walid A. Metwally, Xiaogang Han, Charles Mayo *(NCSU)*

Complete Condensation in a Vertical Tube Passive Condenser, Shripad T. Revankar *(Purdue Univ)*

Pyroelectric Electron Acceleration: Improvements and Future Applications, Jeffrey Geuther, Yaron Danon *(RPI)*

Fundamental Condensation Heat Transfer Studies for Horizontal PCCS Heat Exchanger, Tiejun Wu, Karen Vierow *(Purdue Univ)*

The Effect of the Uranium 5d Electrons on Theoretical Calculations of the Ground and Excited States of the Uranyl Ion, Eric V. Beck *(AFIT)*, Jean-Phillippe Blaudeau *(High Performance Technol)*, Larry Burggraf *(AFIT)*

Uranium Oxide Weathering, Anthony Khaskelis, Larry Burggraf, Gary Brett *(AFIT)*

A Radioactive Marker System to Reduce Positioning Errors in Radiation Treatment, William Howard Miller *(Univ of Missouri, Columbia)*, Jatinder R. Palta *(Univ of Florida)*

Application of Hilbert-Huang Transform for Acoustic Signal Analysis, Baofu Lu, Belle Upadhyaya, J. W. Hines *(Univ of Tennessee)*

Student Design Competition, sponsored by ETD. [Track 11] *Session Organizer:* H. Lee Dodds *(Univ of Tennessee)*. All invited

Student submittals are currently being evaluated, and the titles will be published in the final program.

Pronuclear Communications, sponsored by ETD. [Track 11] *Session Organizer:* David Pointer *(ANL)*

The Need for Public Comments in Nuclear-Related Rulemaking, Peter Caracappa *(RPI)*

Public Communications: Focusing on Higher Visibility, Laura Hermann *(ANS)*

The NA-YGN Annual Nuclear Science and Technology Drawing Contest, Sama Bilbao y Leon *(Dominion Gen)*, Lawanda Chisolm *(Westinghouse)*

Presenting RAM Transport as a Virtual, Visual Narrative, Judith M. Espinosa, Nancy Bennett, Mary E. White *(Univ of New Mexico)*

Bring the Mountain to Muhammad: Taking Nuclear Outreach to the Frontlines, Lisa Shell *(Dominion Gen)*

ANS Local Section Joins Forces with National Laboratory for Public Information Success Story, Mary Lou Dunzik-Gougar *(Idaho State Univ)*

2004 Nuclear Innovations Program Review–Panel, sponsored by ETD. [Track 11] *Session Organizer:* Sean O'Kelly *(Univ of Texas, Austin)*

PANELISTS:

- John A. Bernard *(MIT)*
- Stephen E. Binney *(Oregon State Univ)*
- Jack Brenizer *(Penn State)*
- Warren Reece *(Texas A&M)*
- Wynn A. Volkert *(Univ of Missouri)*
- Ayman Ibrahim Hawari *(NCSU)*

MONDAY, NOVEMBER 15, 2004 • 4:00 P.M.

General Chair's Special Session: Atoms for Prosperity — The Next Ten Years
[Track 1] *Session Chair:* William D. Magwood, IV *(U.S. DOE)*

SPEAKERS:

- "Developing the Nation's Nulear Energy Laboratory,"
  Director, Idaho National Laboratory (TBD)
- "The Next Decade in Science Education: Saving the Physical Sciences in General, and Nuclear Engineering in Particular,"
  James J. Duderstadt, President Emeritus, University of Michigan
- "The "Group of Eight" National Laboratory Directors:
  Recommendations for the Future,"
  Michael R. Anastasio, Director, Lawrence Livermore National Laboratory
- "Advancing Nuclear Non-proliferation,"
  Rose Gottemoeller, Senior Associate, Carnegie Endowment for International Peace
- "Industry Outlook"
  Marvin S. Fertel, Senior Vice President, Nuclear Energy Institute

NOTE:

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

TUESDAY • NOVEMBER 16, 2004

7:30 A.M. - 5:00 P.M.	**MEETING REGISTRATION**
8:00 A.M. - 10:00 A.M.	**SPOUSE/GUEST HOSPITALITY BREAKFAST**
8:30 A.M. - 11:30 A.M.	**ANS WINTER MEETING TECHNICAL SESSIONS** • Transport Methods: General • Nuclear Power and Nuclear Security Strategies for Managing the Dissemination of Sensitive Nuclear Technology–Paper/Panel • Reactor Physics Advances for High-Temperature, Gas-Cooled Systems • Cost Benefits of Risk Information–Panel • Alternative Source Term Applications to Improve Power Reactor Safety Analysis • Recent Perspectives on Global Climate Change Research–Panel • Data, Analysis, and Operations for Nuclear Criticality Safety—I • Regulatory Framework in Commercial & Government Decommissioning: Initiating Decontamination & Decommissioning Activities–Papers/Panel • General Space Technology Interests • University Radiochemistry and Nuclear Chemistry Programs • U.S. Department of Energy Nuclear Engineering Education Research: Highlights of Recent and Current Research—II • Accelerator-Based Experiments for Advanced Fuel cycle Initiative Research
8:30 A.M. - 12:00 P.M.	**BE2004 TECHNICAL SESSIONS** (see page 29)
8:30 A.M. - 12:00 P.M.	**2004 ONFS TECHNICAL SESSIONS** (see page 31)
9:30 A.M. - 2:00 P.M.	**SPOUSE/GUEST TOUR** "Celebrated Gardens and Great Estates"
10:00 A.M. - 2:00 P.M.	**ANS NUCLEAR TECHNOLOGY EXPO**
11:30 A.M. - 1:00 P.M.	**ANS HONORS AND AWARDS LUNCHEON**
1:00 P.M. - 4:00 P.M.	**2004 WINTER MEETING TECHNICAL SESSIONS** • Computational Methods: General • Spent-Fuel Disassembly and Head-End Treatment Developments—II • Reactor Physics: General—I • Data, Analysis, and Operations for Nuclear Criticality Safety—II • Status of Risk-Informing 10 CFR 50 • Potential Impacts of Global Climate Change on the Energy Sector: Status of Implementing the Kyoto Protocol–Panel • New Computational Approaches and Results in Shielding Applications • Regulatory Framework in Commercial and Government Decommissioning: Closure Activities–Papers/Panel • Nuclear Criticality Safety for Decontamination & Decommissioning Activities • Activities to Meet Regulatory Expectations • Advances in Depletion Methods Based on Multidimensional Transport • Nuclear Methods in Human Health and Clinical Research • Training Excellence Awards–Panel • Training, Human Performance, and Workforce Development • Education and Training: General
1:00 P.M. - 5:00 P.M.	**BE2004 TECHNICAL SESSIONS** (see page 29)
1:30 P.M. - 4:30 P.M.	**2004 ONFS TECHNICAL SESSIONS** (see page 31)
4:00 P.M. - 6:00 P.M.	**BEER FEST IN THE NUCLEAR TECHNOLOGY EXPO**
4:00 P.M - 6:00 P.M.	**ANS PRESIDENT'S SPECIAL SESSION** "Energy & the Environment: Golden Opportunities for the Next 50 Years"
7:00 P.M.- 9:00 P.M.	**EVENING EVENT** Banquet: Operating Nuclear Facility Safety Topical Meeting

TUESDAY, NOVEMBER 16, 2004 • 8:30 A.M.

Transport Methods: General, sponsored by MCD. [Track 4] *Session Organizer:* Todd Palmer *(Oregon State Univ)*

An Improved Method for Treating Monte Carlo-Diffusion Interfaces, Jeffery D. Densmore *(LANL)*

Green's Function Analysis of Heterogeneous Slab Time Eigenvalues, Drew Kornreich, D. Kent Parsons *(LANL)*

Spatially Continuous Mixed P_2-P_1 Solutions for Planar Geometry, Patrick S. Brantley *(LLNL)*

Consistent Stretched Transport Synthetic Acceleration of One-Dimensional S_n Problems, W. Daryl Hawkins, Marvin Adams *(Texas A&M)*

Coarse-Mesh Rebalance and Diffusion Acceleration for S_n Problems, Heath L. Hanshaw, Edward W. Larsen *(Univ of Michigan)*

Yet Another Variation of the 1D Discrete Ordinates Algorithm of Neutron Transport, Barry Douglas Ganapol *(Univ of Arizona)*

2-D Transformation of 3-D Transport Problems with "Helical" Symmetry, Edward W. Larsen *(Univ of Michigan)*

Point Source in a Pure Absorber (Revisited), Edward W. Larsen *(Univ of Michigan)*

Variance Reduction of Electron Transport Calculations Using 1-D Importance Functions, Benoit Dionne, Alireza Haghighat *(Univ of Florida)*

Leveraging Computer Memory to Improve Radiation Transport Calculations, Richard Andrew Holland *(Applied Computational Technol)*

Nuclear Power and Nuclear Security Strategies for Managing the Dissemination of Sensitive Nuclear Technology–Paper/Panel, sponsored by FCWMD. [Track 5] *Session Organizer:* Robert Robowski *(Westinghouse SRC)*

Rethinking Nonproliferation Needs for World Nuclear Power Systems, Frank C. Crawford, Man-Sung Yim *(NCSU)*

PANEL DISCUSSION

PANELISTS:

- Adam Scheinman *(DOE/NNSA)*
- Harold D. Bengelsdorf *(Bengelsdorf McGoldrick & Assoc)*
- Thomas E. Shea *(PNNL)*
- A representative from Framatome ANP to be determined.
- A representative from the U.S. Department of State to be determined.

Reactor Physics Advances for High-Temperature, Gas-Cooled Systems, sponsored by RPD. [Track 8] *Session Organizer:* T. K. Kim *(ANL)*

Preliminary Assessment of Lattice Physics Capabilities for VHTR Analysis, Taek Kim, Won Sik Yang, Temitope A. Taiwo, Micheal Addison Smith *(ANL)*

Closing the Fuel Cycle in a Pebble Bed HTGR: Deep Burn of Actinides, Dirceu F. da Cruz, J.B.M. De Haas, A.I. Heek *(NRG)*

Reactivity Effects in a HTGR Due to Variations of Basic Pebble-Bed Characteristics, Pavel V. Tsvetkov *(Texas A&M)*, J. Eduard Hoogenboom *(Delft UT)*

Preliminary Optimization Study for NGNP Fuel Block Design, Won Sik Yang, Taek Kim, Temitope A. Taiwo *(ANL)*

Neutronic Optimization of the H/D Ratio in Annular Core, Yonghee Kim *(KAERI)*

Analysis of the Modular Helium Reactor for a Hydrogen Production Plant, Galina V. Tsvetkova, Kenneth L. Peddicord, Yassin A. Hassan *(Texas A&M)*, Arkal Shenoy, Matt Richards, Chris Ellis *(General Atomics)*

Analysis of the PBMR-268 Benchmark Transient Cases with the NEM-THERMIX Coupled Code, Bismark Mzubanzi Tyobeka, Kostadin Ivanov *(Penn State)*, Nicolas Casula *(Free Univ of Belgium)*, Ramatsemela Mphahlele *(Penn State)*

Reactor Physics Analysis of the VHTGR Core, Wei Ji, Jeremy L. Conlin, William R. Martin, John C. Lee *(Univ of Michigan)*

Cost Benefits of Risk Information–Panel, sponsored by OPD. [Track 2] *Session Organizer:* F. Mark Reinhart *(NRC)*

PANELISTS:

- Larry Rau *(Seabrook Station)*
- Jodine Jansen *(AEP)*
- Mark Averett *(FP&L)*
- Tom Hook *(Dominion)*

Alternative Source Term Applications to Improve Power Reactor Safety Analysis, sponsored by NISD. [Track 2] *Session Organizer:* Stephen P. Schultz *(Duke Power)*

Alternative Source Term Implementation Experience, Stephen F. LaVie *(NRC)*

Progress Energy Experience with Alternative Source Term Implementation, William R. Ziegler *(Progress Energy)*

Alternative Source Term Application for Oconee Nuclear Station, Christie B. Taylor, Stephen P. Schultz *(Duke Power)*

AST Source Term Issues: Aerosol Removal, Michelle L. Hart *(NRC)*

PSEG Nuclear's Experience with Alternative Source Term Implementation, John F. Duffy *(PSEG Nuclear)*

Examination of Parameter Uncertainty in Nuclear Plant Accident Dose Assessment, Chad Huffman, Man-Sung Yim *(NCSU)*

Reactor Accident Source Term Research Program at USNRC, Jay Young Lee *(NRC)*

RADTRAD 3.10—Model Enhancements and Their Benefit, Terence J. Heames *(ALION Science & Technol)*

Recent Perspectives on Global Climate Change Research–Panel, sponsored by ESD. [Track 12] *Session Organizer:* Robert P. Addis *(Westinghouse SRC)*

PANELISTS:

- Recent Observational Evidence of Climate Change, David R. Easterling *(NOAA)*
- Recent Modeling Evidence of Climate Change/Background and Uncertainties, Maurice Blackmon *(NCAR)*
- Man's Contribution and Likelihood to Effect Change, Ronald J. Stouffer *(NOAA)*
- Anticipated Societal Impacts, Cynthia E. Rosenzweig *(NASA)*
- New U.S. 10 Year Climate Change Research Plan, James R. Mahoney *(NOAA)*

Data, Analysis, and Operations for Nuclear Criticality Safety—I, sponsored by NCSD. [Track 8] *Session Organizer:* Richard Taylor *(Univ of Tennessee)*

Effect of Mixing Condition of MOX Powder and Additives on Criticality Safety, Toshihiro Yamamoto, Yoshinori Miyoshi *(JAERI)*

Impact of Benchmarks on Potential MOX Throughput, Sedat Goluoglu, Calvin Mitchell Hopper *(ORNL)*

Undertaking of Criticality Inspections at Sellafield, Joanne Gracey *(BNFL)*

A Fresh Approach to Criticality Accident Alarm System Omission, Neil Harris *(BNFL)*

Expansion and Improvement of the NCSP Nuclear Criticality Safety Bibliographic Database, Brian Koponen, Song Huang *(LLNL)*

Basis of Defining "Not Normally Occupied Area" for Personal Criticality Detector Application per ANS 8.3 at SRS, Debdas Biswas, D. Allan Coutts *(Washington Safety Management Sol)*

Re-evaluation of the Criticality Detector Placement at BWXT-NPD, Larry L. Wetzel, Mark V. Mitchell, David W. Faidley *(BWX Technol)*

Regulatory Framework in Commercial and Government Decommissioning: Initiating Decontamination and Decommissioning Activities–Papers/Panel, sponsored by DDRD. [Track 6] *Session Organizers:* Arthur Paynter *(GPU Nuclear)*, Mark Morton *(Polestar)*

Innovation in Facility Closure Planning at the Savannah River Site, Jerel G. Nelson *(Polestar)*, William Edwin Austin, Jr., J. Christopher Noah, Sr. *(Westinghouse SRC)*

Innovative Approaches of Safety Documentation to Support Hazard Reduction and Deactivation of a Major Nuclear Facility, Robert Peters *(Washington Grp Int)*

PANEL DISCUSSION

PANELISTS:

- All Plants are Different, Mark Price *(SCE)*
- General Issues in Decommissioning Planning, Art Paynter *(GPU Nulcear)*
- Planning for Site D&D at the Savannah River Site, Jerel Nelson *(Polestar)*, Bill Austin *(Westinghouse SRC)*
- K-25/K-27 D&D Planning and Licensing at East Tennessee Technology Park, P. Ken Jackson *(Bechtel/Jacobs)*, Wendy Cain *(DOE, Oak Ridge)*

General Space Technology Interests, sponsored by ANST. [Track 10] *Session Organizer:* Hamilton Hunter *(ORNL)*

Post-Irradiation Examination of ^{237}Np Targets for ^{238}Pu Production, Alan Icenhour, Robert Wham, Ronald Brunson, Robert McMahon *(ORNL)*

Sodium-Cooled Epithermal Long-Term Exploration Nuclear Engine (SELENE) Concept, Peter Yarsky *(MIT)*

Fission Fragment Magnetic Collimator Reactor: Current Status of the Experimental Program, Pavel V. Tsvetkov, Ronnie R. Hart *(Texas A&M)*, Don B. King *(SNL)*

Experimental Verification of Magnetic Insulation of Direct Energy Conversion Fission Reactors, Pavel V. Tsvetkov, Ronnie R. Hart *(Texas A&M)*, Don B. King *(SNL)*

University Radiochemistry and Nuclear Chemistry Programs, sponsored by IRD; cosponsored by BMD. [Track 9] *Session Organizer:* Stephen LaMont *(Westinghouse SRC)*. All invited

Graduate Education in Nuclear and Radiochemistry at the University of Texas at Austin, Sheldon Landsberger, Lynn Katz, Donna O'Kelly *(Univ of Texas, Austin)*

Environmental Radiochemistry Education at Clemson University, Robert Alan Fjeld, Timothy A. Devol, James Navratil *(Clemson Univ)*

Bucking the Trend: Radiochemistry at the University of Missouri-Columbia, John D. Robertson, Silvia S. Jurisson, Susan Z. Lever, Paul B. Duval *(Univ of Missouri, Columbia)*

Nuclear and Radiochemistry at Oregon State University, Walt Loveland, Alena Paulenova, Kathryn A. Higley *(Oregon State Univ)*

Modern Nuclear Chemistry at Michigan State University, David J. Morrissey, Paul F. Mantica *(Michigan State Univ)*

Overview of the Radiochemistry Graduate Program at Colorado State University, Shawki A. Ibrahim *(Colorado State Univ)*

Investing in Academic Radiochemistry: Re-invigorating Radiochemistry in Chemistry Departments, Sue Clark *(Washington State Univ)*

U.S. Department of Energy Nuclear Engineering Education Research: Highlights of Recent and Current Research—II, sponsored by FED; cosponsored by THD. [Track 10] *Session Organizer:* Kathy McCarthy *(INEEL)*

Skeletal Dose Estimates via a Paired-Image Radiation Transport (PIRT) Model, Wesley E. Bolch, Amish Shah *(Univ of Florida)*

Development of Methodology for Early Detection of BWR Instabilities, Alessandro Petruzzi, Shin Chin, Kostadin Ivanov, Asok Ray, Fan-Bill Cheung *(Penn State)*

Liquid-Metal-Bonded Gap for Light Water Reactor Fuel Rods, Doonyapong Wongsawaeng *(Univ of California)*, Donald R. Olander *(LBNL)*

Development of a Robust Tri-Carbide Fueled Reactor for Multi-Megawatt Space Power and Propulsion Applications, Travis Warren Knight, Samim Anghaie, Thomas Clifford Carter *(Univ of Florida)*

Characterizing Stratified Flow in Passive Emergency Core Cooling Systems for Advanced Light Water Reactors, Alan G. Stephens *(Idaho State Univ)*, Chyr Liou *(Univ of Idaho)*, Richard R. Schultz, H. J. Kadakia *(Idaho State Univ)*

Towards Virtual GEN-IV Reactors, Nick Karancevic, Rizwan-uddin *(Univ of Illinois)*

Flashing and Instability in a Boiling Natural Circulation Loop Under Low Pressure, Quan Zhou, Rizwan-uddin *(Univ of Illinois)*

Flow Localization Modeling for FCC Metals after Exposure to Radiation, Xianglin Wu, Xiao Pan, Meimei Li, James F. Stubbins *(Univ of Illinois)*

Accelerator-Based Experiments for Advanced Fuel Cycle Initiative Research, sponsored by AAD. [Track 7] *Session Organizer:* Denis Beller *(UNLV-HRC)*

Status of the SAD Experiment, Waclaw Gudowski *(KTH)*, invited

Reactor-Accelerator Coupled Experiment (RACE) at The University of Texas at Austin, Sean O'Kelly, Taylor Green *(Univ of Texas, Austin)*, William S. Charlton *(Texas A&M)*

Initial Results from the AFCI Reactor-Accelerator Coupling Experiments (RACE) Project, Denis Beller *(UNLV-HRC)*

Preliminary Analysis of the ^{237}Np Neutron Capture Cross Section, Ernst Ingo Esch, DANCE Collaboration *(LANL)*

Neutron-Induced Hydrogen and Helium Production in Iron, Robert C. Haight *(LANL)*

Fabrication of Transuranic Actinide Nitride Ceramic Fuel Pellets, Stephen P. Willson, Robert Margevicius *(LANL)*

TUESDAY, NOVEMBER 16, 2004 • 1:00 P.M.

Computational Methods: General, sponsored by MCD. [Track 4] *Session Organizer:* Todd Palmer *(Oregon State Univ)*

Benchmark Results for Monte Carlo Computations of Decay Time Measurements, Hatice Akkurt *(Princeton Technol Ctr, Schlumberger)*

Entropy and Undersampling in Monte Carlo Criticality Calculations, Taro Ueki *(Univ of New Mexico)*

Algebraic Multigrid Methods for the Solution of the Finite Element-Spherical Harmonics Equations, Cassiano R. de Oliveira, HyeongKae Park *(Georgia Tech)*

Identification of an Unknown Material in a Radiation Shield Using the Schwinger Inverse Method, Jeffrey A. Favorite *(LANL)*

Thermohydraulic and Nuclear Modelling of Natural Fission Reactors, Jason Viggato, William Culbreth *(UNLV)*

Adaptive Kalman Filtering for Diagnosis of Multiple Component Degradations, Steven E. Aumeier *(ANL)*, Bulent Alpay, John C. Lee *(Univ of Michigan)*

Atomistic Simulation of Actinide Solution and Segregation in Urania, C. R. Stanek, Kenneth McClellan *(LANL)*, Robin William Grimes *(Univ of London)*

Science-Based Prediction of Nuclear Fuel Materials Properties, Marius Stan *(LANL)*

Analysis of a Main Steam Line Break Accident Benchmark Problem by a Coupled Code: RETRAN/TORC/UNCARDS, Chang Hyo Kim *(Seoul Natl Univ)*, Ku Young Chung *(KINS)*

Spent-Fuel Disassembly and Head-End Treatment Developments—II, sponsored by FCWMD. [Track 7]

Results of Phase I Testing for the DEOX Process, Brian R. Westphal, Ken Bateman, Paul Lind, Karen Howden, Mike Goff *(ANL)*, Bill Del Cul, Barry Spencer, Emory D. Collins *(ORNL)*

Release Behavior of Kr-85 from Spent Fuel During OREOX Process, Geun Il Park, Jung Won Lee, Myung Seung Yang *(KAERI)*

Cesium Trapping of DUPIC Off-Gas Stream, Shin Jin-Myeong *(KAERI)*

Evaporative Removal of Bond Sodium from Low Burn-Up Blanket Fuel, Steven Herrmann, Karen Howden *(ANL)*, David A. Sell *(ANL-West)*

Scoping Experiments on Processing of Spent TRISO-Coated GEN IV Reactor Fuels, Barry B. Spencer, Catherine Helene Mattus, Guillermo D. Del Cul, Rodney D. Hunt, Emory D. Collins *(ORNL)*

Reactor Physics: General—I, sponsored by RPD. [Track 8]

An Overview of Resonance Theory in Reactor Physics Applications, Richard N. Hwang *(ANL)*, invited, Eugene P. Wigner Reactor Physicist Award Winner

Coolant Void Reactivity in Supercritical CO_2-Cooled Fast Reactors, Michael A. Pope, Michael J. Driscoll, Pavel Hejzlar *(MIT)*

State Representation of the Delayed Neutron Importance Factor for Two-Group Nodal Transient Calculations, Bedirhan Akdeniz *(Penn State)*, Erwin Muller, Dobromir Panayotov *(Westinghouse)*, Kostadin Ivanov *(Penn State)*

Optimized Innovative Burnable Poison Concepts for Advanced PWR Fuel Management, Serkan Yilmaz, Kostadin Ivanov, Samuel Levine *(Penn State)*, Moussa Mahgerefteh *(Exelon)*

Treatments of Kinetic Equation of Fast Sub Critical Assembly, Kohei Iwanaga, Hiroshi Sekimoto *(Tokyo Inst Technol)*

Comparison of Subcriticality Monitoring Methods for Accelerator-Driven System, Koshi Taguchi, Yoshihiro Yamane, Yasunori Kitamura, Akio Yamamoto *(Nagoya Univ)*

Design of a Once-Through Breed and Burn GFR, Peter J. Yatsky, Michael J. Driscoll, Pavel Hejzlar *(MIT)*

Modeling Genetic Algorithm Operators for Loading Pattern Optimization, Fatih Alim, Kostadin Ivanov *(Penn State)*

Data, Analysis, and Operations for Nuclear Criticality Safety—II, sponsored by NCSD. [Track 8] *Session Organizer:* Richard Taylor *(Univ of Tennessee)*

Critical Split-Table Subcritical Assemblies and Fissile Natural Uranium Dummy Drivers, Dennis Mennerdahl *(EM Systems)*

Criticality of a Neptunium-237 Sphere Surrounded with Highly Enriched Uranium Shells and a High-Density Polyethylene Reflector, Rene G. Sanchez, David J. Loaiza, David Hayes, Robert Kimpland *(LANL)*

Development of HTML Formatted Output for SCALE, Bradley T. Rearden *(ORNL)*, Aaron M. Fleckenstein *(Western Michigan Univ)*, Kofi C. Whitney *(Benedict Coll)*

Historical Review of Critical Experiments Performed at the Atomic Weapons Establishment, UK, Richard Humphreys, Nigel Philip Tancock *(AWE)*

GEMER Monte Carlo-Geometry Advancements, Lon E. Paulson, John T. Taylor *(GNF)*

Validation of Monte Carlo Criticality Safety Code GEMER, Qi Ao, Lon Paulson *(GNF)*

Status of Risk-Informing 10 CFR 50, sponsored by NISD. [Track 2] *Session Organizer:* William Burchill *(Texas A&M)*

NRC Discussion of 10 CFR 50.69, Tim Reed *(NRC)*

Industry Perspectives on NRC "Option 2" Rulemaking, Biff Bradley *(NEI)*

Risk-Informed Option 2 Pilot at Surry Power Station, Thomas Hook *(Dominion Res)*

Risk-Informing 10 CFR 50.46, Richard Dudley *(NRC)*

Risk-Informing 10 CFR Part 50—Enabling a Safety Focus on Areas of Risk Importance, John Butler *(NEI)*

Redefining the Large Break Loss of Coolant Accident Maximum Break Size—A Licensee's Perspective, Wayne Harrison *(South Texas Project)*

BWROG Approach to Risk-Informing 10CFR50 Option 3, Tony Browning *(Nucl Mgt)*

Potential Impacts of Global Climate Change on the Energy Sector: Status of Implementing the Kyoto Protocol–Panel, sponsored by ESD. [Track 12] *Session Organizer:* Sama Bilbao y Leon *(Dominion Energy)*

PANELISTS:

- Daniel A. Reifsnyder *(U.S. Dept of State)*
- Nils Anderson *(Vattenfall)*
- Nick Marty *(Ministry of Natural Resources)*
- David South *(Technol & Market Sol)*

New Computational Approaches and Results in Shielding Applications, sponsored by RPSD. [Track 8] *Session Organizer:* Robert Hayes *(WIPP)*

MONACO: A New 3-D Monte Carlo Shielding Code for SCALE, Margaret Emmett, John Wagner *(ORNL)*

Assessment of the Murphy-Campe Geometry Factor for Dose Calculations, Herschel P. Smith *(Duke Power)*

HETC-HEDS Fragment Fluence Predictions Compared with High-Energy Heavy Ion Beam Laboratory Data, Thomas Martin Miller, Lawrence W. Townsend *(Univ of Tennessee)*, Tony A. Gabriel *(Scientific Investigation & Development)*, Thomas Handler *(Univ of Tennessee)*

MCNP Calculation of BWR Leakage Compared to DORT and Measurements, Andrew D. Hodgdon *(Framatome ANP)*

MCNP Calculation of BWR Containment Dose Compared to DORT and Measurements, Andrew D. Hodgdon *(Framatome ANP)*

Neutronic Analysis for the KSTAR Tokamak, Chang-Shuk Kim *(Korea Basic Science Inst)*, Hee-Seock Lee *(Pohang Accelerator Lab/POSTECH)*, Myeun Kwon *(Korea Basic Science Inst)*

Regulatory Framework in Commercial and Government Decommissioning: Closure Activities–Papers/Panel, sponsored by DDRD. [Track 6] *Session Organizers:* Mark Morton *(Polestar)*, Arthur Paynter *(GPU Nuclear)*

Integrating Deactivation and Decommissioning Projects to Achieve the Desired Endstate, Peggy Brooks, William Tadlock *(Washington Grp Int)*

Dealing with Legacy Materials During Deactivation—Issues and Successes, Tom Campbell *(Washington Grp Int)*

PANEL DISCUSSION

PANELISTS:

- Plum Brook Decommissioning LTP Issues, Sheryl Leeper *(USACE)*
- Final Status Survey Planning, Barry Brosey *(GPU Nuclear)*
- Update on Saxton License Termination, Art Paynter *(GPU Nuclear)*
- CERCLA Closure of the DR Reactor at Hanford with Integrated RCRA Closure, Robert Nielson *(Bechtel Hanford)*, Mitzi Miller *(Environmental Quality Management)*

Nuclear Criticality Safety for Decontamination and Decommissioning Activities, sponsored by NCSD. [Track 8] *Session Organizer:* Robert Wilson *(DOE)*

Holdup Measurements in Support of Closure Mission at Rocky Flats Environmental Technology Site, Frank Lamb *(Kaiser-Hill)*, Roy D. Harris *(Safe Sites of Colorado)*, Carol Cise *(Frankie Friend & Assoc)*

Use and Importance of NDA Measurements in the Development of Criticality Safety Evaluations for D&D Activities, Roy D. Harris *(Safe Sites of Colorado)*, Carol Cise *(Frankie Friend & Assoc)*

NDA Data and Criticality Safety Evaluations at Hanford, David Erickson, Hans Toffer *(Fluor Fed Svc)*, Blaise S. Mo *(Fluor Hanford)*

Activities to Meet Regulatory Expectations, sponsored by NCSD. [Track 8] *Session Organizers:* Robert Frost *(Nuclear Safety Assoc)*, Kevin Carrol *(DOE)*

Criticality Safety Regulation at Former DOE Facilities, Dennis Morey, Ken O'Brien *(NRC)*

Challenges Encountered in Meeting the Revised Rule at NFS, Ralph Winiarski *(Nuclear Safety Assoc)*, Chris Miller *(Nuclear Fuel Svc)*

Double Contingency Analysis Versus Risk Indexing, Robert Maurer *(Nuclear Safety Assoc)*

Advances in Depletion Methods Based on Multidimensional Transport, sponsored by NCSD. [Track 8] *Session Organizer:* Mark DeHart *(ORNL)*

Integrated KENO V.a MONTE CARLO Transport for Multidemensional Depletion within SCALE, Mark David DeHart, Lester Petrie, Jr. *(ORNL)*

Spent-Fuel Decay Heat Investigations for BWR Assemblies Using Both One- and Two-Dimensional Model Simulations, Brian Murphy, Ian Gauld *(ORNL)*

Automated Depletion Analysis of PBMR Fuel Using SCALE, Ian Gauld *(ORNL)*

Nuclear Methods in Human Health and Clinical Research, sponsored by BMD. [Track 9] *Session Organizer:* Robert Greenberg *(NIST)*

Development of a Biomarker for Monitoring the Elimination of Heavy Metals from Autistic Children, Lin-Wen Hu *(MIT)*

NAA Applied to the Evaluation of Dental Human Loss Caused by Bleaching Agent, Eduardo Adachi, Michael Youssef *(Univ of São Paulo)*, Mitiko Saiki *(IPEN)*

Instrumental Neutron Activation Analysis of Pygmy Sperm Whale (Kogia Breviceps) Liver Tissue Used for Quality Assurance in the Analysis of Marine Mammal Tissues, Elizabeth A. Mackey *(NIST)*, Rabia D. Oflaz *(Natl Inst of Standards & Science)*, Barbara Porter *(NIST)*, invited

Neutron Activation Analysis of Toenails from a Portuguese Population Influenced by Large Industrial Emissions of Selenium and Mercury into the Atmosphere, M.C. Freitas *(ITN-Reactor)*, invited

Recirculating Targetry to Enhance F-18 Clinical PET, J. Michael Doster, Jon C. Clark *(NCSU)*, Bruce Wieland *(Bruce Technol)*

Theoretical Assessment of Boron Neutron Capture Therapy for the Treatment of Breast Cancer, Daniel W. Mundy, Yu Liu, Tatjana Jevremovic *(Purdue Univ)*

Gadolinium Neutron Capture Depth-Dose Distribution for Deep-Seated Brain Tumors, Tatjana Jevremovic, Emad Ghandourah *(Purdue Univ)*

INAA as a Tool to Identify Organically Grown Food, Stephen Philip Lamont *(Westinghouse SRC)*, Elisabete De Nadai Fernandes *(Univ of São Paulo)*, Fábio S. Tagliaferro, Márcio A. Bacchi *(Univ of São Paulo, CENA)*, Peter Bode *(Delft UT)*, Christian Turra *(Univ of São Paulo, CENA)*, L. Santos *(Univ of São Paulo)*, invited

Training Excellence Awards–Panel, sponsored by ETD. [Track 11] *Session Organizer:* Richard P. Coe *(Excelsior Coll)*

The Education and Training Division annually awards recognition for training excellence. Three categories are recognized: individual, group, and pioneer. The pioneer category is reserved for those individuals who have distinguished themselves in the design, development, implementation, and management of nuclear training.

Recipients in all categories are invited to the ANS Winter Meeting to receive their awards and to participate in this session. Participation ranges from paper presentations, panel discussions, and technology demonstrations.

AWARD RECIPIENTS:

- Richard P. Coe *(Excelsior Coll)*
- Lawrence B. Durham *(Sterling Learning Svc)*

Training, Human Performance, and Workforce Development, sponsored by ETD. [Track 11] *Session Organizer:* Jane LeClair *(Constellation Nucl)*

Demonic Demographics: Strategies for Retaining and Recruiting the Nuclear Workforce, Lawrence B. Durham *(Sterling Learning Svc)*

New Educational Partnerships—College Credit for Energy Industry Training, Richard P. Coe *(Excelsior Coll)*, invited

Education and Training: General, sponsored by ETD. [Track 11] *Session Organizer:* Mike Robinson *(Bechtel Bettis)*

Laying the Foundation for Learning Beyond the Baccalaureate Degree, Steven Biegalski, Sheldon Landsberger *(Univ of Texas, Austin)*

Extension of the AGENT Neutron Transport Method to 3D Lattice Geometries, Tatjana Jevremovic, Mathieu Hursin *(Purdue Univ)*

Nuclear Activities in Morocco: Means of Promotion, Oum Keltoum Bouhelal *(Natl School of Mineral Industry)*

TUESDAY, NOVEMBER 16, 2004 • 4:00 P.M.

ANS President's Special Session: Energy and the Environment: Golden Opportunities for the Next 50 Years [Track 1]

INVITED SPEAKERS:

- Sen. Pete V. Domenici *(U.S. Senate)*
- James Lovelock *(Author and Environmentalist)*

TUESDAY, NOVEMBER 16, 2004 • 6:30 P.M.

Project Prometheus Overview: Nuclear Science and Technology in Space–Panel, sponsored by ANST. [Track 10] *Session Chair:* Milton Klein *(Former Manager, Joint NASA-AEC Space Nuclear Systems Division; Retired Group Vice President, EPRI)*

This panel will help explain NASA's plans for space nuclear power and propulsion and DOE's role in supporting these activities. Each Speaker along with the Chair will give a short presentation to introduce the audience to their area of expertise. A question and answer session will commence after the presentations.

SPEAKERS:

- Project Prometheus and JIMO Overview and Advance Concepts, Matt Forsbacka *(NASA)*
- Prometheus Communications, Engagement and Outreach, Victoria Friedensen *(NASA)*
- Radioisotope Power Systems and Associated Power Conversion Technology, George Schmidt *(NASA)*
- Non-JIMO Reactor Development, Jack Wheeler *(U.S. DOE)*
- Naval Reactors Involvement in Project Prometheus, TBD *(Bettis/KAPL)*

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

WEDNESDAY • NOVEMBER 17, 2004

7:30 A.M. - 5:00 P.M.	**MEETING REGISTRATION**
8:00 A.M. - 10:00 A.M.	**SPOUSE/GUEST HOSPITALITY BREAKFAST**
8:30 A.M. - 11:30 A.M.	**ANS WINTER MEETING TECHNICAL SESSIONS** • Geometry Representation for Monte Carlo Radiation Transport Codes • Methodologies for Assessment of Proliferation Resistance and Physical Protection • INIE: Innovations in Nuclear Infrastructure & Education Program Experience • Knowledge Conversion and Transfer–Papers/Panel • Reactor Analysis for the ACR-700 and Gas-Cooled Reactors • Hydrogen Production and Storage • Recent Developments in Radiation Protection and Shielding • Decommissioning: General Topics–Paper/Panel • Nondestructive Analysis (NDA) for Nuclear Criticality Safety—I–Tutorial • Equipment and Methods for Gamma Spectrometry • Fuel Cycle Safety and University-Supported Research • Emergency Preparedness and Response
8:30 A.M. - 12:00 P.M.	**BE2004 TECHNICAL SESSIONS** (see page 29)
8:30 A.M. - 12:00 P.M.	**2004 ONFS TECHNICAL SESSIONS** (see page 31)
9:00 A.M. - 4:00 P.M.	**SPOUSE/GUEST TOUR** "Annapolis: The U.S. Naval Academy"
11:30 A.M. - 1:00 P.M.	**NUCLEAR INSTALLATIONS SAFETY DIVISION (NISD) LUNCHEON**
11:30 A.M. - 1:00 P.M.	**MATERIALS SCIENCE AND TECHNOLOGY (MSTD) AWARDS LUNCHEON**
1:00 P.M. - 4:00 P.M.	**2004 WINTER MEETING TECHNICAL SESSIONS** • Roundtable on Current Issues in Computational Methods–Panel • Progress in Development of Transmutation Fuels • Reactor Physics Design, Validation, and Operating Experience • Challenges Facing the Young Generation in Nuclear–Panel • Safety Hazard Experience in Design and Construction of Nonreactor Nuclear Facilities • Environmental Sciences: General • Medical Applications in Radiation Protection and Shielding • Reactor Physics: General—II • Innovations in Nuclear Engineering Education, Training, & Distance Learning • Nondestructive Analysis (NDA) for Nuclear Criticality Safety—II–Tutorial • Nuclear Analytical Techniques • General Two-Phase Flow • Advances in Materials Testing and Analysis • Advanced Nuclear Energy Systems Research and Development, Including Nuclear Power 2010—I
1:00 P.M. - 4:00 P.M.	**BE2004 TECHNICAL SESSIONS** (see page 29)
1:30 P.M. - 5:00 P.M.	**2004 ONFS TECHNICAL SESSIONS** (see page 31)
4:00 P.M - 6:00 P.M.	**TECHNICAL PROGRAM CHAIR'S SPECIAL SESSION** "Taking the Lead on Critical Issues"
7:00 P.M.- 10:00 P.M.	**EVENING EVENT** Reception at the British Embassy

WEDNESDAY, NOVEMBER 17, 2004 • 8:30 A.M.

Geometry Representation for Monte Carlo Radiation Transport Codes, sponsored by MCD. [Track 4] *Session Organizer:* Brian Franke *(SNL)*

Stochastic Geometry for MCNP5, Forrest B. Brown *(LANL)*, William R. Martin *(Univ of Michigan)*, invited

White Rock Science Tools for Geometry Modeling, Kenneth A. Van Riper *(White Rock Science)*, invited

mcnpviz: A Program for the Interactive Display of an MCNP Geometry, Randy Schwarz, Bob Lewis *(Washington State Univ)*, Victor Roetman *(SIL Int)*, invited

CAD Based Geometry Generation for Monte Carlo Particle Transport Codes, Haileyesus Tsige-Tamirat, Ulrich Fischer *(FzK)*, invited

TopAct: Automated Translation from CAD to Combinatorial Geometry, Steven J. Manson *(Raytheon)*, invited

Improved Geometry Representations in Monte Carlo Radiation Transport, Matthew R. Martin *(SNL)*, Steve Warren *(Kansas State Univ)*, invited

CAD-Based Monte Carlo Transport Using MCNPX and CGM, Timothy J. Tautges *(SNL)*, Mengkuo Wang, Douglass L. Henderson *(Univ of Wisconsin, Madison)*, invited

Using CAD Files in the NOVICE Code, Thomas Jordan *(Experimental & Mathematical Physics Consultants)*, invited

Univelized Geometry Models for Monte Carlo Transport, Aaron Hall, Gary J. Harkin *(Montana State Univ)*, Charles Wemple *(INEEL)*

Methodologies for Assessment of Proliferation Resistance and Physical Protection, sponsored by FCWMD, in collaboration with the Special Committee on Nuclear Nonproliferation. [Track 5]

A Methodology for Assessment of Physical Protection of Generation IV Nuclear Energy Systems, Gary Eugene Rochau, Tracia West, David York *(SNL)*

Development of Nonproliferation Assessment Tool Software, Victoria Suzi Pratt, Kendra Mylene Foltz Biegalski, Tomer Pintel, Efrat Strassberg, Sheldon Landsberger *(Univ of Texas, Austin)*

A Fuzzy Logic Based Barrier Method for Proliferation Resistance Screening, Jun Li, Man-Sung Yim *(NCSU)*, David Nicholas McNelis *(Univ of North Carolina)*

Effects of Plutonium Quality on Critical Mass, Jor-Shan Choi *(LLNL)*

INIE: Innovations in Nuclear Infrastructure and Education Program Experience, sponsored by ETD. [Track 11] *Session Organizer:* John Gutteridge *(DOE)*

Status of Neutron Beam Port Experiments at The University of Texas at Austin, Sean O'Kelly *(Univ of Texas, Austin)*

WNSA "Nonproliferation Instrumentation and Measurements" Summer Course Experience, Stephen E. Binney, Kathryn A. Higley *(Oregon State Univ)*

MITR's INIE Accomplishments in the Materials and Fuel Testing Program, Lin-Wen Hu, John A. Bernard *(MIT)*

MNSEC Experience and Significant Outcomes under the DOE/ONEST INIE Program (Year 1), Wynn A. Volkert *(Univ of Missouri, Columbia)*, Randy Etter *(Linn State Technical Coll)*, Edbertho Leal-Quiros *(Polytechnic Univ of Puerto Rico)*, Arvind S. Kumar, Bryan R. Becker *(Univ of Missouri, Columbia)*

Multi-University Southeast INIE Consortium: First Year Highlights and Successes, Ayman I. Hawari *(NCSU)*, Mohamad Al-Sheikhly, Marc Garland *(Univ of Maryland)*, Nolan E. Hertel *(Georgia Tech)*, Laurence Miller *(Univ of Tennessee)*, Stephen I. Miller *(Armed Forces Radiobiology Research Inst)*, invited

INIE Collaboration between UIUC and Purdue on Virtual Reactor Development, Dimitrios Andritsos *(Purdue Univ)*, John Griffith, Nick Karancevic *(Univ of Illinois)*, Tatjana Jevremovic *(Purdue Univ)*, James F. Stubbins, Rizwan-uddin *(Univ of Illinois)*

Knowledge Conversion and Transfer–Papers/Panel, sponsored by OPD. [Track 2] *Session Organizer:* David Pointer *(ANL)*

Enterprise Knowledge Management System Utility Requirements Document for Nuclear Power Plants, John J. Haugh, Joseph Albert Naser II, William Parkinson *(EPRI)*

Use of Visualization Techniques to Improve Human, Lewis F. Hanes, Joseph Albert Naser II *(EPRI)*

Development of an International Distributed Web-Based Nuclear Safety Information System, Hubert Ley *(ANL)*

Knowledge Transfer of Gas-Cooled Nuclear Design Methodology at General Atomics, Chris Ellis *(General Atomics)*

PANEL DISCUSSION

PANELISTS:

- Duncan Robinson *(Westinghouse)*
- Shannon Bragg-Sitton *(LANL)*

Reactor Analysis for the ACR-700 and Gas-Cooled Reactors, sponsored by NISD. [Track 6] *Session Organizer:* David Diamond *(BNL)*

Evaluation Model for ACR-700 Large Break LOCA, Nik Popov *(AECL)*, Harve Sills, Raphael Kouyoumdjian *(Consultant)*, Eric Lemoine, Amad A. Abdul-Razzak *(AECL)*

Qualifying the Reactor Physics Toolset for the Advanced CANDU Reactor, R.T. Jones, H.C. Chow, Benjamin Rouben *(AECL)*

Validation of WIMS-AECL 2-6a for ACR-Type Lattice, Blair P. Bromley I, David Irish *(AECL, Chalk River)*

Coolant Void Reactivity of ACR-700 Fuel, Vladimir Khotylev *(Canadian Nuclear Safety Commission)*, Rudi J. J. Stamm'ler *(Studsvik Scandpower AS)*

Simulation Study on CANDLE Burnup of High Temperature Gas Reactor, Yasunori Ohoka, Hiroshi Sekimoto *(Tokyo Inst Technol)*

Preliminary LOCA Analysis for a Gas-Cooled Fast Reactor Design, Nolan A. Anderson, Theron Marshall *(INEEL)*

ATWS Events and Control System Design for the Gas Fast Reactor, Richard Vilim *(ANL)*

Coolant Chemistry Characteristics During Safety Demonstration Test Using HTTR, Nariaki Sakaba, Shigeaki Nakagawa, Takayuki Furusawa, Yukio Tachibana *(JAERI)*

Hydrogen Production and Storage, sponsored by ESD. [Track 4] *Session Organizer:* Jan van Erp *(Consultant)*

Nuclear Hydrogen for Peak Electricity Production and Commercial Sale, Charles Forsberg *(ORNL)*

Aspen Simulation of Hydrogen Production via the Reverse Deacon Cycle, Michael Simpson *(ANL)*, Brendan Boyle, Christopher McGrady, Mackenzie Tepel *(Univ of Pennsylvania)*

Model-Based Evaluation of Thermochemical Nuclear Hydrogen Processes, Maximilian B. Gorensek, William A. Summers, Melvin R. Buckner *(SRNL)*

Hydrogen Storage in Pressed Nanophase Diamond Powder, Angel L. Velez, Mark Antonio Prelas, Tushar K. Ghosh *(Univ of Missouri, Columbia)*

Release of Hydrogen from Nanophase Diamond Powders by Heat, Alexis Sotomayor-Rivera, Tushar K. Ghosh, Mark A. Prelas *(Univ of Missouri, Columbia)*

A Progress Report on the Chemistry of the Low Temperature Cu-Cl Thermochemical Cycle, Michele Lewis, Manuela Serban, John Basco *(ANL)*

Recent Developments in Radiation Protection and Shielding, sponsored by RPSD. [Track 8] *Session Organizer:* Robert Hayes *(WIPP)*

Application of Low-Cost Radiation Shielding Material to the Transfer Cask, Zeev Shayer *(Univ of Denver)*

Release of MCNP5_RSICC_1.30, Tim Goorley, Jeffrey S. Bull, Forrest B. Brown *(LANL)*

OPTFRAG: An Optical Model Code for Predicting Nuclide Production from Heavy Ion Fragmentation, Christina E. Campbell, Lawrence W. Townsend *(Univ of Tennessee)*

Measurement of Carbon-14 Released from Yonggwang-4 in Korea, Kidoo Kang, Kyungrok Park, Jihoon Kwak, Kyungduk Kim *(KHNP)*, Jong Hyun Ha, Myung Jae Song *(KHNP/NETEC)*

Decommissioning: General Topics–Papers/Panel, sponsored by DDRD. [Track 6] *Session Organizer:* John Gunning *(Battelle/UT)*

Sorbent Testing for Solidification of Organic Plutonium/Uranium Extraction Waste, Jody L. Bickford *(MSE Technol Applications)*

First Vitrification Cell Dismantlement in Nation Underway at West Valley, James M. Gramling *(West Valley Nuclear Svc)*, Ahmad M. Al-Daouk *(DOE)*

Projectizing an Operating Nuclear Facility to Achieve a Successful Deactivation, Steve Williams *(Washington Grp Int)*

Knocking Down the Barriers to Achieve a Successful Deactivation in a Major Nuclear Facility, Steve Williams *(Washington Grp Int)*

Re-Engineering the Work Process for Deactivation of a Nuclear Facility, Steve Howell *(Washington Grp Int)*

PANEL DISCUSSION

PANELISTS:

- John Gunning *(Battelle/UT)*
- Jeff Paris *(Bechtel/Jacobs)*

Nondestructive Analysis (NDA) for Nuclear Criticality Safety—I–Tutorial, sponsored by NCSD. [Track 8] *Session Organizer:* Valerie Putnam *(INEEL)*

Criticality safety may rely on information from nondestructive assay (NDA) to provide information needed in criticality safety evaluation and/or demonstrate compliance with criticality safety limits. Tailored for criticality-safety personnel, this tutorial begins with an introduction to NDA technology, emphasizing techniques for waste assay and discussing systems for detecting uranium and plutonium. The tutorial will specifically address the origin and magnitude of errors when measuring, with NDA techniques, waste items that contain special nuclear material (SNM). The tutorial will also include a detailed discussion of the Performance Demonstration Program (PDP), which is a program to qualify actual waste measurement systems at facilities that are shipping waste to Waste Isolation Pilot Plant (WIPP).

Equipment and Methods for Gamma Spectrometry, sponsored by IRD. [Track 9] *Session Organizer:* Richard Lindstrom *(NIST)*

Direct Gamma Spectrometry of the ^{226}Ra 186.2 keV line for Detecting ^{238}U/^{226}Ra Disequilibrium in Determining the Environmental Dose Rate for the Luminescence Dating of Sediments, Frans De Corte *(Ghent Univ)*, invited

Gaussian Broadening of MCNP Pulse Height Spectra, Walid A. Metwally, Gardner Robin *(NCSU)*, Avneet Sood *(LANL)*

Real Time Accurate Elimination of Pulse Pile-Up Distortion in Nuclear Radiation Spectroscopy, Robin P. Gardner, Charles W. Mayo, Weijun Guo *(NCSU)*

Improved Performance in Germanium Detector Gamma Spectrometers Based on Digital Signal Processing, Ronald M. Keyser, Timothy R. Twomey, Russell D. Bingham *(ORTEC)*, invited

Simulated Spectra for QA/QC of Spectral Analysis Software, Kevin Jackman, Steven Biegalski (Univ of Texas)

Studies on Lanthanum Halides, Sanjoy Mukhopadhyay *(Bechtel Nevada)*

How Good is Your Gamma Peak Integration, and How Do You Know?, Richard Lindstrom, Rolf Zeisler, Rick L. Paul *(NIST)*, invited

Fuel Cycle Safety and University-Supported Research, sponsored by FCWMD. [Track 7]

Safety Management in Industrial Reprocessing: Lessons Learned from COGEMA's Experience, Richard Vinoche, Catherine Baganz, Mathieu Pierre *(COGEMA)*

Measurement of Temperature Effect on Low Enrichment STACY Heterogeneous Core, Shouichi Watanabe, Toshihiro Yamamoto, Yoshinori Miyoshi *(JAERI)*

Waste Package Characteristics for High-Temperature Reactor Fuel, J. Kevin McCoy, William J. Szymczak *(Framatome ANP)*

Validation of CMS/SNF Calculations Against Preliminary CLAB Decay Heat Measurements, Sigurd Borresen, Tamer Bahadir, Magnus Kruners *(Studsvik Scandpower)*

Linear Programming Model for High-Level Waste Conditioning, Myeongguk Cheon, Joonhong Ahn, Paul Chambre *(Univ of California, Berkeley)*

Conceptual Workcell Design and Throughput Analysis for Robotic Transmuter Fuel Fabrication, Georg F. Mauer, Jamil M. Renno *(UNLV)*

From a Scientific Feasibility to the Industrial Application: The COGEMA Experience, Marie-Françoise Debreville, Jean-Luc Emin *(COGEMA)*, François Drain *(SGN)*

Emergency Preparedness and Response, sponsored by ESD. [Track 5] *Session Organizer:* Kent B. Welter *(NRC)*

Comprehensive Emergency Management at DOE/NNSA, Jim Fairobent, James Powers *(DOE)*, David E. Freshwater *(SAIC)*, invited

A Risk-Informed Reevauation of Offisite Emergency Planning Technical Basis and Protective Action Strategies, David Leaver *(Polestar)*, Alan Nelson *(NEI)*, John Gaertner, Gary Vine *(EPRI)*, invited

NRC Incident Response Activities, Richard Wessman, Susan Frant, Ian Jung *(NRC)*

A Preliminary GIS Emergency Response System for Nuclear Facilities, Yong Li *(NRC)*

Characterization Process for Representation of Human Factors and Human Reliability in Facility Security, David I. Gertman, Ronald L. Boring, George Beitel, Martin Plum *(INEEL)*

Emergency Preparedness in the News, Patricia Milligan *(NRC)*

Effects of Using Multiple Integrated Laser Engagement System for In-Plant Exercises, Ky D. Nguyen *(SCE)*, Paul Diaz *(SONGS)*

WEDNESDAY, NOVEMBER 17, 2004 • 1:00 P.M.

Roundtable on Current Issues in Computational Methods–Panel, sponsored by MCD. [Track 4] *Session Organizer:* Alireza Haghighat *(Univ of Florida)*

MODERATOR:

Object-Oriented and Component-Based Software Development Strategies for Nuclear Applications, Todd Urbatsch *(LANL)*

Progress in Development of Transmutation Fuels, sponsored by FCWMD. [Track 7]

Dual Phase Magnesia-Zirconia Ceramics for Light Water Reactor Inert Matrix Fuel, Pavel Medvedev, Mitchell Meyer *(ANL)*

Thermal Conductivity of Minor Actinide Doped Pu-Zr and U-Pu-Zr Transmutation Fuels, J. Rory Kennedy, Marsha J. Lambregts, Andrew P. Maddison *(ANL-West)*

Improving the Burning Up of Plutonium Using Zirconium Hydride Based Fuel, Zeev Shayer *(Univ of Denver)*

New Characterization Techniques for Coated Particle Fuel, John D. Hunn, Gerald E. Jellison, Jr., Jeffery R. Price *(ORNL)*

Measurement of Oxygen Potential of Mixed Oxide Fuel Containing Np and Am, Masato Kato *(JNC)*, Kenji Konashi *(Tohoku Univ)*, Yoshiyuki Kihara *(JNC)*

Remote Fabrication of MOX Pellets Containing AmO_2 in Hot-Cell, Kenya Tanaka, Hiroshi Yoshimochi, Takeo Asaga *(JNC)*

Studies on the Possibility to Replace the Burnable Poison with the Transmutation Fuel in the Deep Burn Fuel Management Strategy for the Gas Turbine Modular Helium Reactor, Talamo Alberto, Waclaw Gudowski *(KTH)*

Reactor Physics Design, Validation, and Operating Experience, sponsored by RPD. [Track 8]

MOX and MOX with Neptunium Fuel Depletion Characteristics Comparison in ATR, Gray Chang, Richard Ambrosekj *(INEEL)*

Accuracy Evaluation of Pin Exposure Calculations in Current LWR Core Design Codes (Phase 1), Chanatip Tippayakul, Kostadin Ivanov *(Penn State)*

Investigation of Changes in Europium Isotopic Ratios Following Irradiation, Trent Primm *(ORNL)*

Conceptual Core Design of Transmutation Fast Reactor, PEACER-300, Jae-Yong Lim, Myung Hyun Kim *(Kyung Hee Univ)*

Design Optimization for TRU Transmutation in Heterogeneous Thorium-Based PWR Fuels, Kang Mok Bae, Myung Hyun Kim *(Kyung Hee Univ)*, Un Chul Lee *(Seoul Natl Univ)*

Reactor Physics Analysis of the MINERVE Reactor for the OSMOSE Program, Yan Cao *(Univ of Michigan)*, Gregory Perret, Raymond Klann *(ANL)*, John C. Lee *(Univ of Michigan)*

The Spatially Corrected Inverse Count Rate (SCICR) Method For Subcritical Reactivity Measurement, Y.A. Chao, H.Q. Lam, J.D. Gibbons, M.D. Heibel *(Westinghouse)*, M. Kauchi *(Mitsubishi, Kobe)*

SFAT of PHWR Evaluation Using Accident Sequences, Chansoo Kim *(Seoul Natl Univ)*, Huiichang Yang *(FNC Technol)*, Chang Hyun Chung *(Seoul Natl Univ)*

Challenges Facing the Young Generation in Nuclear–Panel, sponsored by OPD. [Track 2]

PANELISTS:

- David Pointer *(ANL)*
- Lisa Shell *(Dominion)*
- Shannon Bragg-Sitton *(LANL)*
- Amy Buu *(Westinghouse)*
- Elizabeth McAndrew *(Constellation-Calvert Cliffs)*

Safety Hazard Experience in Design and Construction of Nonreactor Nuclear Facilities, sponsored by NISD. [Track 9] *Session Organizer:* Herbert Massie, Jr. *(DNFSB)*

Safety Hazard Experience in Design and Construction of Non-Reactor Facilities, John D. Stevenson *(J.D. Stevenson, Consulting Engineer)*

An Oversight Approach for the Review of the Design of the Pit Disassembly and Conversion Facility, Herbert W. Massie, Jr. *(DNFSB)*

Nuclear Health and Safety Plan for the Silo 3 Project at Fernald, Lawrence M. Zull *(DNFSB)*

Operational Design Services for Yucca Mountain's Surface Facility Material-Handling System, Dorothy R. Davidson, Ian James Hunter *(COGEMA)*, Colin Cochrane, Robert C. Slovic *(Bechtel SAIC)*

PDCF Fire Risk Analysis—A Bridge Between the FHA and the PDSA, Rick Brouns *(Washington Grp Int)*

Environmental Sciences: General, sponsored by ESD. [Track 3]

Airborne Beryllium Monitoring at the Nuclear Nonproliferation Program Sites, Kathryn Scott *(Univ of South Carolina, Aiken)*, Peter Fledderman *(Westinghouse SRC)*

A GIS-Based Tool to Visualize Environmental Contamination and Biota Prevalence, Karen H. Watanabe *(Oregon Health & Science Univ)*, Richard Campanella, Douglas John Meffert *(Tulane Univ)*, Jeffrey Short *(DOE)*

Web-Enabled Mapping and Management of a Large Deactivation and Decommissioning Program, Jim Scott Bollinger *(SRNL)*, William Edwin Austin, Jr. *(Westinghouse SRC)*

Sensitivity Analysis of Parameters Considered in Dose Modeling of Decommissioning Site, Hak Soo Kim *(Nuclear Environment Technol Inst)*

CFD Investigation of a Proposed Virtual Impactor Configuration Using CFX-4.4—Part I, Sridhar Hari, Yassin Hassan, Andrew McFarland *(Texas A&M)*

CFD Investigation of a Proposed Virtual Impactor Configuration Using CFX-4.4—Part II, Sridhar Hari, Yassin Hassan, Andrew McFarland *(Texas A&M)*

Medical Applications in Radiation Protection and Shielding, sponsored by RPSD. [Track 8] *Session Organizer:* Robert Hayes *(WIPP)*

Measurements of Neutron Spectrum at Fermilab Neutron Therapy Facility, Zhonglu Wang, Nolan E. Hertel *(Georgia Tech)*, Arlene J. Lennox *(Fermilab)*

Monte Carlo Shielding Analysis of a Cyclotron Room for ^{18}F Production, Chan-Hyeong Kim, Kyu Seok Seo, Jeong Wan Kwon, Jae Ki Lee *(Hanyang Univ)*

MINERVA—A Multimodality Plugin-Based Radiation Therapy Treatment Planning System, Charles Wemple, Daniel Wessol, David W. Nigg *(INEEL)*

Area X-Ray Source for Industrial, Clinical and Screening Applications, Chang Hyeuk Kim, J. Michael Doster, Mohamed A. Bourham *(NCSU)*

Reactor Physics: General—II, sponsored by RPD. [Track 8]

Uniform Nuclear Heat Density in the CANDU Fuel Bundle, Sümer Sahin *(Gazi Univ)*, Kadir Yildiz *(Nigde Univ)*, Adem Acir *(Gazi Univ)*

Analysis of VHTR's with the SCALE System, Felix C. Difilippo *(ORNL)*

Simultaneous In-Core Optimization of PWR Tandem Cycles, Akio Yamamoto, Erina Sugimura, Yasunori Kitamura, Yoshihiro Yamane *(Nagoya Univ)*

Estimated Cost for Low Conversion Ratio Burners, Edward A. Hoffman, Robert N. Hill, Temitope A. Taiwo *(ANL)*

Innovations in Nuclear Engineering Education, Training, and Distance Learning, sponsored by ETD. [Track 11] *Session Organizer:* Brian K. Hajek *(Ohio State)*

Internet University Reactor Experiments for Education in Nuclear Engineering, Laurence Miller *(Univ of Tennessee)*, Andrew Cook, Ayman I. Hawari *(NCSU)*

The Recent R&D Activities of KEPRI in Nuclear Simulation Technology, Myeong-Soo Lee, Hong Jin-Hyuk, Seo In-Yong, Lee Yong-Kwan *(KEPRI)*

A Virtual Laboratory and Control Room, Nick Karancevic, James F. Stubbins, Rizwan-uddin *(Univ of Illinois)*

System Design of Virtual Nuclear Plant for ALARA Simulation, Kidoo Kang *(KHNP)*, Yonsik Lee *(Kunsan Natl Univ)*, Brian Hajek *(Ohio State)*, Yoojin Shin *(Kwangwoon Univ)*

Distance Learning Revival at Oregon State University, Stephen E. Binney, Kathryn A. Higley *(Oregon State Univ)*

Distance Education: Teaching from a Distance, J. Wesley Hines *(Univ of Tennessee)*

Nondestructive Analysis (NDA) for Nuclear Criticality Safety—II–Tutorial, sponsored by NCSD. [Track 8] *Session Organizer:* Valerie Putnam *(INEEL)*

Criticality safety may rely on information from nondestructive assay (NDA) to provide information needed in criticality safety evaluation and/or demonstrate compliance with criticality safety limits. Tailored for criticality-safety personnel, this tutorial begins with an introduction to NDA technology, emphasizing techniques for waste assay and discussing systems for detecting uranium and plutonium. The tutorial will specifically address the origin and magnitude of errors when measuring, with NDA techniques, waste items that contain special nuclear material (SNM). The tutorial will also include a detailed discussion of the Performance Demonstration Program (PDP), which is a program to qualify actual waste measurement systems at facilities that are shipping waste to Waste Isolation Pilot Plant (WIPP).

Nuclear Analytical Techniques, sponsored by BMD; cosponsored by IRD. [Track 9] *Session Organizer:* Kenan Ünlü *(Penn State)*

Time Dependent Neutron Fluence Measurements at UT-NETL PGAA Facility, Sukesh K. Aghara, Emilio Alvarez *(Univ of Texas, Austin)*

Density Logging in Steel Using Water Activation and an Accelerator Neutron Generator, David Chichester *(Thermo Electron Corp)*

MCNPTV: Implementation of a Methodology for Converting CT Images to MNCP Input, Mark S. Wyatt, Laurence Miller *(Univ of Tennessee)*

Hypermet PC for Certification of Hydrogen in Titanium by PGAA, Rick L. Paul, Richard M. Lindstrom *(NIST)*, invited

Redesign of the Cold-Neutron Analytical Chemistry Instruments at the NIST Center for Neutron Research, Emilio Alvarez *(Univ of Texas, Austin)*, Richard Lindstrom, Rick Lee Paul, Jeremy Cook, Ivan Schroder *(NIST)*

Testing Neutron-Induced Soft Errors in Semiconductors, Kenan Ünlü, Sacit M. Cetiner, Vijay Dagalahal, Narayanan Vijaykrishnan, Mary Jane Irwin *(Penn State)*, invited

Exploring the Quality of INAA for Determinations in Reference M, Rolf Zeisler, Robert R. Greenberg, K.H. Cho *(NIST)*, invited

Experiences in Developing a Quality System for the Nuclear Analytical Methods Group at the National Institute of Standards and Technology, Elizabeth A. Mackey, Robert R. Greenberg *(NIST)*

General Two-Phase Flow, sponsored by THD. [Track 4] *Session Organizer:* Martin Bertodano *(Purdue Univ)*

Dispersion Behavior of Nanometer-Sized Metallic Particles in Liquid Sodium, Hiroaki Ohira, Kuniaki Ara *(JNC)*

Thermal Design of Steam Generator for Pb-Bi Cooled Reactor PEACER-300, Il-Suk Lee, Kune Yull Suh *(Seoul Natl Univ)*

Critical Heat Flux Propagation in Asymmetric Narrow Circular Channel, Jeong Ju Kim, Yong Kim, Kune Yull Suh *(Seoul Natl Univ)*

A Study of Supercritical Fluid Blowdown, Guillaume Mignot, Mark H. Anderson, Michael L. Corradini *(Univ of Wisconsin, Madison)*

Ex-Vessel Cooling: Heat Transfer and Flow Stability of Multiphase Injection, Helge B. Klockow, Mark H. Anderson, Michael L. Corradini *(Univ of Wisconsin, Madison)*

PIV Images and Pressure Signals Analysis on Drag Reduction, Ling Zhen, Yassin A. Hassan *(Texas A&M)*

Two-Phase Wall Shear Stress Measurements in a Channel Flow Using PIV, Wall-Pressure and an Optical Sensor, Elvis Efren Dominguez Ontiveros, Carlos Estrada Perez, Jose A. Jimenez Bernal, Yassin A. Hassan *(Texas A&M)*

Modification of the Rate of Strain for Two-Phase Channel Flow, Claudia del Carmen Gutierrez Torres, Yassin Hassan, Jose A. Jimenez Bernal *(Texas A&M)*

New Approach for PIV Spectra Evaluation in Drag-Reduction by Micro-Bubbles, Jose A. Jimenez Bernal, Yassin A. Hassan, Claudia del Carmen Gutierrez Torres *(Texas A&M)*

Advances in Materials Testing and Analysis, sponsored by MSTD. [Track 7]

Uranium-Based Catalysts, Jonathan Haire, S.H. Overbury, Cyrus Riahi-Nezhad, Zongtao Zhang, Sheng Dai *(ORNL)*

Demonstration of Millimeter-Wave Waste Glass Melter Monitoring Technology for Viscosity and Salt-Layer Formation, Paul Woskov *(MIT)*, S.K. Sundaram *(PNNL)*, William Daniels, Jr., Don Miller *(Westinghouse SRC)*, John Harden *(Clemson Environmental Technol Lab)*

Development of Non-Destructive Post-Irradiation Examination Technique Using High-Energy X-Ray Computer Tomography, Kozo Katsuyama, Tsuyoshi

Nagamine, Shin-ichiro Matsumoto, Takeo Asaga, Masahiko Ito, Hirotaka Furuya *(JNC)*

Polonium Contamination Removal from Stainless Steel by Baking Method, Toru Obara, Terimitsu Miura, Hiroshi Sekimoto *(Tokyo Inst Technol)*

Estimating Source Terms for Diverse Spent Nuclear Fuel Types, Brett W. Carlsen, Layne F. Pincock, James W. Sterbentz *(INEEL)*

Radiation Effects in ZrC, Jian Gan, Mitchell K. Meyer, Robert C. Birtcher *(ANL)*, Todd R. Allen *(Univ of Wisconsin, Madison)*

Effects of Light and Heavy Element Irradiation in Zirconium Nitride, Gerald W. Egeland *(LANL)*

Advanced Nuclear Energy Systems Research and Development, Including Nuclear Power 2010—I, sponsored by OPD. [Track 6] *Session Organizer:* Buzz Savage *(DOE)*

Development of Innovative Nuclear Reactor Technology to Produce Protected Plutonium with High Proliferation Resistance (P^3–Project)—I, Masaki Saito, Hiroshi Sagara, Yoga Peryoga *(Tokyo Inst Technol)*

Feed Control in Helical Steam Generators for Next Generation Nuclear Power Plants, J. Michael Doster, Matt Stokely, Charles Mayo *(NCSU)*

Denaturation of Plutonium by Transmutation of Minor Actinides, Hiroshi Sagara, Masaki Saito *(Tokyo Inst Technol)*

Lead-Bismuth Eutectic Coolant for Advanced Nuclear Systems: Operational Experience, Keith Woloshun, Valentina Watts, Ning Li *(LANL)*

Alternative ENHS Core Design Using Stepped Geometry Core, Tsuyoshi Okawa, Ehud Greenspan *(Univ of California, Berkeley)*

Development of Innovative Nuclear Reactor Technology to Produce Protected Plutonium with High Proliferation Resistance (P^3–Project)—II, Masahiko Itoh, Masahiko Osaka, Masaki Saito, John Ryskamp *(Tokyo Inst Technol)*

An Upgrade Methodology of I&C Systems Through Reliability Evaluation, Chan Ho Sung, Hak Yeung Chung *(KHNP)*

Tritium Breeding Potential of Innovative Coolants in a Hybrid Reactor, Sümer Sahin, Mustafa Übeyli *(Gazi Univ)*, Taner Altinok *(Kara Kuvvetleri Komutanligi)*

WEDNESDAY, NOVEMBER 17, 2004 • 4:00 P.M.

Technical Program Chair's Special Session: Taking the Lead on Critical Issues - The 100 Year Integrated Plan[Track 1] *Session Organizer:* Mark Reinhart *(NRC)*

History clearly dictates that the constructive, beneficial application of nuclear technology requires very significant resource investments: Time, Personal, and Fiscal. A successful future must include well thought-out and integrated polices, programs, designs, regulations, manufacturing, construction, and utilization. This integration must coordinate nuclear science, technology, engineering, education, training, laboratories, medicine, industry, fuel, research and power reactors, reprocessing, and waste management. The safety, risks, and benefits of these activities must be thoroughly assessed and managed. Such articulate efforts will not succeed on individual, organizational, or short-term bases. The vision and infrastructure to manage the necessary spectrum of efforts must be national, regional, and preferably international. This endeavor requires considerable and ongoing foresight. By whom? They? Dear colleagues, WE are they!

PANELISTS:

- Mark Reinhart, NRC, Facilitator
- Dr. Mikhail Khorochev, IAEA
- Dr. John A. Vitarello, MD
- Amy N. Roddey, American Tank & Fabricating, Co-Facilitator

THURSDAY • NOVEMBER 18, 2004

7:30 A.M. - 10:00 A.M.	**MEETING REGISTRATION**
8:00 A.M. - 12:30 P.M.	**2004 ONFS TECHNICAL SESSION & PANEL SESSION SUMMARY** (see page 31)
8:30 A.M. - 11:30 A.M.	**ANS WINTER MEETING TECHNICAL SESSIONS** • Partitioning/Transmutation Systems for Repository Benefits • Reactor Analysis Methods • Advanced Nuclear Energy Systems Research and Development, Including Nuclear Power 2010—II • Environmental Aspects of Legacy Material Management • Decommissioning: Hot Topics and Emerging Issues–Papers/Panel • University Partnerships • Labeling and Quality Control of Radiopharmaceutical Compounds • Thermal-Hydraulic Code Development and Applications • Development and Testing of Fuels for Advanced Reactors • Minimizing Risks in Communication with the Media–Panel • Nuclear Criticality Safety Standards–Poster • International Collaboration in Nuclear Engineering Education and Training–Panel
8:30 A.M. - 11:30 A.M.	**BE2004 WRAP-UP SESSION** (see page 29)

THURSDAY, NOVEMBER 18, 2004 • 8:30 A.M.

Partitioning/Transmutation Systems for Repository Benefits, sponsored by FCWMD. [Track 7]

Technical Approach of the Reasonable Nuclear Energy System for a New Era, Yoshihiro Nagaoki *(JNC)*

Burning of Minor Actinides in Fuel Cycle of the Fast Reactor—Dovita Program: Results of the 10-Year Activities, Alexandre Bychkov *(FSUE SSC RIAR)*

Acceptable Decontamination Factor of Radioactive Wastes from PEACER in Korea, Sung Il Kim, Kun Jai Lee *(KAIST)*

Separation of Actinides from HLW by Chelating Ion Exchange Method, Takahiro Kikuchi, Ichiro Goto, Kazunori Suzuki *(IR&I)*

Design-Experimental Validation of Minor-Actinides Transmutation in the BOR-60 Reactor, Alexander Mayorshin *(FSUE SSC RIAR)*

Implementation of Industrial Reprocessing: Lessons Learned from COGEMA's Experience, Richard Vinoche, Frédéric Bailly *(COGEMA)*, François Drain *(SGN)*

Reactor Analysis Methods, sponsored by RPD. [Track 4]

Advanced Methods of Analyses for the Supercritical Water Fast Reactor, Magnus Mori, Werner Maschek, Xue-Nong Chen *(FzK)*, Guenter Lohnert *(Univ of Stuttgart)*

Effect of Neutron Spectra and Fuel Burnup on CANDLE Calculation, Hiroshi Sekimoto *(Tokyo Inst Technol)*

Comparison of 2-Group/9-Group Nodal-Transport Calculations in 3-D Pin-by-Pin Geometry, Masahiro Tatsumi *(NFI)*, Akio Yamamoto *(Nagoya Univ)*

The TDMCC Monte Carlo Capability for Spatial Kinetics Calculations of Reactor Cores, Vladimir Aleksandrovich Tarasov, Alexander Zhitnik, Vadim Petrovich Fomin *(VNIIEF)*, Temitope Taiwo *(ANL)*

TDMCC Monte-Carlo Package Coupled with STAR-CD Thermal-Hydraulics Code, Vladimir Aleksandrovich Tarasov, Vadim Petrovich Fomin *(VNIIEF)*, Temitope A. Taiwo *(ANL)*

Application of SP_3 Approximation to MOX Transient Analysis in PARCS, Deokjung Lee, Tomasz Kozlowski, Thomas J. Downar *(Purdue Univ)*, Changho Lee *(Westinghouse)*, Hyun Chul Lee *(Purdue Univ)*

New Features of the Analytic Function Expansion Nodal (AFEN) Method and Implementation in the Hexagonal-Z KORDAX Code, Nam Cho, Jaejun Lee *(KAIST)*, Do Sam Kim, Chae Yong Yang, Jong Chull Jo *(KINS)*

BWR Cycle Management to Minimize Potential for Failed Fuel Degradation, Jeffrey L. Winklebleck, Paul G. Edelmann, Paul E. Netusil *(Constellation Energy Grp)*

Advanced Nuclear Energy Systems Research and Development, Including Nuclear Power 2010—II, sponsored by OPD. [Track 6] *Session Organizer:* Buzz Savage *(DOE)*

Power Conversion System Design for an Indirect Cycle, Helium Cooled Pebble Bed Reactor System, Chunyun Wang *(ORNL)*, Ronald George Ballinger *(MIT)*

Pressurized Water Reactor Automated Plant Startup, Ryan Michael Lipsky, J. Michael Doster *(NCSU)*

Optimization of the Reactor Vessel Air Cooling for a Lead Fast Reactor, Anton Moisseytsev, James Joseph Sienicki *(ANL)*

Linear Stability Analysis of STAR-LM Natural Circulation and Neutronics Coupled System, You Yao, Yeon-Jong Yoo, Qiao Wu *(Oregon State Univ)*, James Joseph Sienicki *(ANL)*

STAR-H2: Materials, Safety, Non-Proliferation and Ultra Long Operation, Galina V. Tsvetkova, Kenneth L. Peddicord *(Texas A&M)*, Won Sik Yang, David Wade *(ANL)*

Feasibility of Utilizing the Toshiba 4S Reactor for Remote Mines, Christopher W. Lapp *(Lapp Consulting Svc)*

MMI Display Design Approach for ALWR Nuclear Power Plant, Jae Hyuk Park, Jong Jae Choi, Moon Jae Choi *(KOPEC)*

Transmutation of Minor Actinides in a High Power Density Fusion Reactor, Sümer Sahin *(Gazi Univ)*, Mustafa Übeyli *(TOBB Ekonomi ve Teknoloji Univ)*, Taner Altinok *(Kara Harp Okulu)*

Environmental Aspects of Legacy Material Management, sponsored by ESD. [Track 3]

Design and Performance of Engineered Covers: A Legacy Management Paradigm, William Joseph (Jody) Waugh *(S.M. Stoller Corp)*, Art Kleinrath *(DOE)*, Gregory Smith *(S.M. Stoller Corp)*, Eric McDonald, David Rhode, Saxon Sharpe *(Desert Research Inst)*

Performance Evaluation for the Tuba City, Arizona, Legacy Management Site Extraction and Treatment System, David M. Peterson, Tim Bartlett, Stan Morrison *(S.M. Stoller Corp)*, Alan Laase *(A.D. Laase Hydrologic Consulting)*, Art Kleinrath *(DOE)*

Three-Dimensional Thermal-Mechanical Modelling of a Spent Nuclear Fuel Waste Repository Located in Granite Rock, Grigore Horhoianu, Sr., Dragos Ionescu, Gheorghe Olteanu, Sr. *(Nuclear Research Inst)*

Suggestions on Near-Field Nuclide Transport in a Proposed LLW Repository, Sol-Il Su *(INER)*, Ruei-Fu Went *(Shengtai Engineering)*, Wen-Shou Chuang *(INER)*

High Level Waste Tank Closure Modeling with Geographic Information Systems (GIS), Jim Scott Bollinger *(SRNL)*, Jeffry L. Newman *(Westinghouse SRC)*, Leonard Bruce Collard *(SRNL)*

Overcoming Challenges to Federal Facilities Cleanup Through Enhanced Stakeholder Participation: Taking an Environmental Justice Approach, Judith M. Espinosa, Nancy Bennett, Mary E. White *(Univ of New Mexico)*

Decommissioning: Hot Topics and Emerging Issues–Papers/Panel, sponsored by DDRD. [Track 6] *Session Organizer:* Joseph Carignan *(TLG Svc)*

Empowering the Workforce to Succeed—A Teaming Approach, Philip Breidenbach *(Washington Grp Int)*

PANEL DISCUSSION

PANELISTS:

- Socio-Economic Impacts of Decommissioning, Richard Ferch *(Canadian Nuclear Safety Commission)*
- Dealing with Legacy Materials During Deactivation: Issues and Successes, Tom Campbell *(Washington Grp Int)*
- Topic to be determined, David Brevig *(SCE)*
- Site Releases, Robert C. Woodard *(TLG Svc)*

University Partnerships, sponsored by ETD. [Track 11] *Session Organizer:* John Gutteridge *(DOE)*

PUPR-MU University Partnership Program in Nuclear Engineering and Health Physics, William Howard Miller *(Univ of Missouri, Columbia)*, Edbertho Leal-Quiros *(Polytechnic Univ of Puerto Rico)*

New Mexico Opportunities in Nuclear Engineering (NMONE) Fellowship Program, Mohamed S. El-Genk, Robert Busch *(Univ of New Mexico)*

"The Texas Partnership," A Multi-Dimensional Partnership, Daniel Suson, Lionel Hewett, Henry Leckenby *(Texas A&M, Kingsville)*

The South Carolina State University Nuclear Engineering Program, Eduardo Farfan, Phyllis Pelzer *(SCSU)*

Building an Effective Educational Bridge Between Tuskegee University and the University of Cincinnati Nuclear and Radiological Engineering Program, Syed Ali *(Tuskegee Univ)*, John M. Christenson *(Univ of Cincinnati)*, Pradosh K. Ray *(Tuskegee Univ)*, Shoaib Usman *(Univ of Cincinnati)*

Labeling and Quality Control of Radiopharmaceutical Compounds, sponsored by BMD. [Track 9] *Session Organizer:* Dickerson Moreno *(Univ of Minneapolis, Twin Cities)*

The New IUPAC Project on "Technology, Quantities and Units Concerning Production and Applications of Radionuclides in Radiopharmaceutical and Radioanalytical Chemistry," Mauro L. Bonardi, Flavia Groppi *(Università degli Studi di Milano)*

Radiolabeling and Characterization of Receptor-Avid Peptides, Wynn A. Volkert, Michael Giblin, Timothy Hoffman *(Univ of Missouri, Columbia)*, invited

Astatine-211: Production, and Protein-Labelling, Geerd J. Meyer, Hans Helmeke, Peter Gielow, Karl Matzke, Eyk Poetter, Michael Hofmann, Wolfram H. Knapp *(Hannover Medical School)*

Astatine-211 Labeled Radiopharmaceuticals, Ganesan Vaidyanathan *(Duke Univ)*, invited

Tracer Development and Positron Emission Tomography Imaging Studies, Yu-Shin Ding *(BNL)*, invited

IN VITRO and IN VIVO Quality Control: Differences in RADIOTRACER Metabolites Produced by Rat, Monkey, and Human Hepatocytes, Ying Ma, Dale O. Kiesewetter, Lixin Lang, Elaine M. Jagoda, M. A. Channing, William C. Eckelman *(NIH)*, invited

Thermal-Hydraulic Code Development and Applications, sponsored by THD. [Track 4] *Session Organizer:* Martin Bertodano *(Purdue Univ)*

Assessment of a Molecular Diffusion Model in RELAP5-3D, Cliff B. Davis, Larry Siefken, Chang H. Oh *(INEEL)*

Passive Decay Heat Removal in the Reactor Cavity Cooling System, Constantine P. Tzanos *(ANL)*

Natural Convection Heat Transfer with Low Prandtl Number Fluid, Kang Hee Lee, Seung-Dong Lee, Kune Yull Suh *(Seoul Natl Univ)*

3-D CFD Simulation of a Spent Nuclear Fuel Storage System, Ajey Y. Walavalkar *(Fluent India Pvt Ltd)*, David G. Schowalter *(Fluent)*

Hot Channel Flow Starvation of Helium Cooled GFRs in Laminar Natural Convection, Pavel Hejzlar, Wesley C. Williams, Michael J. Driscoll *(MIT)*

Thermal Design for Irradiation Experiments in the HFIR, Chunyun Wang *(Oak Ridge Associated Universities)*

CFD Analysis of Pulse and Steady Gas Core Reactors, Anne Charmeau, Samim Anghaie *(Univ of Florida)*

Transient Analysis of Advanced Gas Cooled Reactor Using Athena-3D, Francois Guilhem Cocheme, Jordi Freixa, Yassin A. Hassan *(Texas A&M)*

Computational Fluid Dynamic Simulation and Analysis of a Real Impactor, Sridhar Hari, Yassin A. Hassan, A. R. McFarland *(Texas A&M)*

Development and Testing of Fuels for Advanced Reactors, sponsored by MSTD. [Track 7]

Thermochemistry of Defects and Oxygen Diffusion in PuO_{2-x}, Marius Stan, Petrica Cristea *(LANL)*

Depleted Uranium Oxide Modification and Fabrication for Mixed Oxide Fuel Development at the Los Alamos National Laboratory, Stewart Voit *(LANL)*

Removal of Iron and Aluminum Impurities from Uranyl Nitrate Solutions for AGR Feedstock, Luke O. Ragland, DeWayne L. Husser, William Richardson *(BWX Technol)*

Measurements of Gap Conductance in Nuclear Fuels, Chun-Hyung Cho, Tushar K. Ghosh, Robert V. Tompson, Sudarshan Kumar Loyalka *(Univ of Missouri, Columbia)*

Radionuclide Release from Mixed-Oxide Fuel Under Severe Accident Conditions, Akihide Hidaka, Tamotsu Kudo, Toyoshi Fuketa *(JAERI)*

Development of Mixed Carbide Fuels in Support of the AFCI Program, Thomas Clifford Carter, Travis Warren Knight, Samim Anghaie *(Univ of Florida)*

Minimizing Risks in Communication with the Media–Panel, sponsored by ETD. [Track 11] *Session Organizer:* David Pointer *(ANL)*

PANELISTS:

- David Pointer *(ANL)*
- Keith Arterburn *(INEEL)*
- Laura Hermann *(ANS)*
- Mimi Limbach *(Potomac Communications Grp)*
- Eileen Supko *(Energy Resources Int)*

Nuclear Criticality Safety Standards–Poster, sponsored by NCSD. [Track 8] *Session Organizer:* Thomas McLaughlin *(LANL)*

ANSI/ANS-8.26: Nuclear Criticality Safety Engineer Training and Qualification Program, James A. Morman, Chad L. Pope *(ANL)*

Nuclear Criticality Control and Safety of Plutonium-Uranium Fuel Mixtures Outside Reactors, Song Huang *(LLNL)*

Overview of the Raschig Ring Standard, Jerry Hicks *(ANS)*

ANSI/ANS-8.14-2004: Use of Soluble Neutron Absorbers in Nuclear Facilities Outside Reactors, Thomas A. Reilly *(Washington Safety Management Sol)*, James A. Morman *(ANL)*

ANSI/ANS-8.1: Nuclear Criticality Safety in Operations with Fissile Material Outside Reactors, Adolf S. Garcia *(DOE)*, James A. Morman *(ANL)*

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

American National Standard ANS-8.3-1997: Criticality Accident Alarm System, Davis A. Reed *(ORNL)*

Criticality Safety Criteria for the Handling, Storage, and Transportation of LWR Fuel Outside Reactors: ANSI/ANS-8.17-1984 (R97), Brian Kidd *(BWX Technol)*

ANSI/ANS-8.15: Nuclear Criticality Control of Special Actinide Elements, Charles Rombough *(CTR Technical Svc)*

ANSI/ANS-810-1983:R1999: Criteria for Nuclear Criticality Safety Controls in Operations with Shielding and Confinement, Harry David Felsher *(NRC)*

Development of the Burnup Credit Standard, ANS/ANSI-8.27, Dale Lancaster *(NuclearConsultants.com)*

Nuclear Criticality Safety Based on Limiting and Controling Moderators, Jack Bullington *(Washington Safety Management Sol)*

Guide for Nuclear Criticality Safety in the Storage of Fissile Materials, Calvin Mitchell Hopper *(ORNL)*

ANSI/ANS-8.23-1997: Nuclear Criticality Accident Emergency Planning and Response, James Baker *(LANL)*

ANSI/ANS 8-21-1995: Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors, Hans Toffer *(Fluor Hanford)*

International Collaboration in Nuclear Engineering Education and Training–Panel, sponsored by ETD; cosponsored by the ANS International Committee. [Track 11] *Session Organizers:* Gilbert Brown *(Univ of Massachusetts Lowell)*, Jean Louis Nigon *(AREVA/WNU)*, Kaye Hart *(Embassy of Australia)*

PANELISTS:

- WNU: A Worldwide Nuclear Engineering Education Network, Jean Louis Nigon *(AREVA/WNU)*
- ANENT: An Overview of Asian Nuclear Engineering Education Collaborations, Kaye Hart *(Embassy of Australia)*
- NEA International Nuclear Education and Training Initiatives, Gail H. Marcus *(OECD/NEA)*
- Nuclear Engineering Education Collaborations: A U.S. Perspective, Gilbert Brown *(Univ of Massachusetts Lowell)*
- International Collaborations, Shane Johnson *(DOE)*

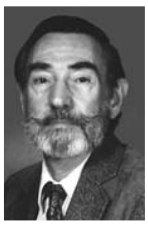
NOTE:

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

EMBEDDED TOPICAL MEETING:
Best Estimate-2004: International Meeting on Updates in Best Estimate Methods in Nuclear Installations Safety Analysis

S. Michael Modro
Idaho National Engineering and Environmental Laboratory
General Co-Chair

Gary E. Wilson
KatJon Services, Inc.
General Co-Chair



James E. Fisher
Idaho National Engineering and Environmental Laboratory
Technical Program Chair

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WITH INTERNATIONAL COOPERATION FROM: **International Atomic Energy Agency • Nuclear Energy Agency of the OECD**

TECHNICAL PROGRAM COMMITTEE

Amad Abdul-Razzak *(AECL, Canada, Topical Area Leader)*
Vladimir Blinkov *(EREC, Russia)*
Francesico D'Auria *(Pisa Univ, Italy, Topical Area Leader)*
Horst Glaeser *(GRS, Germany, Topical Area Leader)*
Linda Hansen *(ANL, USA)*
Chung-Hsing Hu *(INER, Taiwan)*
Won-Jae Lee *(KAERI, Korea)*
Jozef Misak *(IAEA, Topical Area Leader)*
Abder Ougouag *(INEEL, USA, Topical Area Leader)*
Oddbjorn Sandervag *(SKI, Sweden, Topical Area Leader)*
Ivan Toth *(KFKI, Hungary, Topical Area Leader)*
Gary E. Wilson *(KJS, USA, TPC Chair)*

Nusret Aksan *(PSI, Switzerland, Topical Area Leader)*
Ralph Caruso *(ACRS, USA)*
Andrzej Drozd *(USNRC, USA)*
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John Ireland *(LANL, USA)*
Jose March-Leuba *(ORNL, USA)*
Borut Mavko *(IJS, Slovenia, Topical Area Leader)*
Goon-Cherl Park *(SNU, Korea)*
Richard Schultz *(INEEL, USA, Topical Area Leader)*
Robert Tsai *(Excelon, USA)*

Jose M. Aragones *(UPM, Spain, Topical Area Leader)*
Chin-Jang Chang *(INER, Taiwan)*
James Fisher *(INEEL, USA)*
Yassin Hassan *(Texas A&M, USA)*
Larry Hochreiter *(PSU, USA)*
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John Luxat *(NSSL, Canada, Topical Area Leader)*
S. Michael Modro *(INEEL, USA)*
Jacques Royen *(NEA, France)*
Sergei Soloviev *(Minatom, Russia, Topical Area Leader)*
Eugenijus Uspuras *(LEI, Lithuania, Topical Area Leader)*

MONDAY, NOVEMBER 15, 2004 • 1:00 P.M. – 5:00 P.M.

Opening Plenary

Opening Remarks by S. Michael Modro *(Conference Co-Chair)*

Opening Remarks by Gary E. Wilson *(Conference Co-Chair)*

Best-Estimate Analysis and Decision Making Under Uncertainty, Yuri Orechwa *(NRC)*

Defining the R&D Needs for the NGNP, R. R. Schultz, D. W. Nigg *(INEEL)*, H. Khalil *(ANL)*, P. E. MacDonald *(INEEL)*, T. Taiwo, T. Wei *(ANL)*, J. R. Wolf *(INEEL)*

Discussion on the Calculational Envelope of the Fluent Computational Fluid Dynamics Code and the RELAP5 Systems Analysis Code When Using Segregated Solvers, D. Schowalter *(Fluent Corp)*, R. R. Schultz *(INEEL)*, N. Basu *(Fluent Corp)*, N. Anderson *(Texas A&M)*

A Generalized Framework for Assessment of Safety Margins in Nuclear Power Plants, Mirela Gawrilas *(NRC)*

Analytical Simulators, S. Michael Modro *(INEEL)*

Industry Approach to BE Applications—Past and Future, Robert Martin *(Framatome-ANP)*

Transitioning from Interpretive to Predictive in Thermal Hydraulic Codes, Vincent A Mousseau *(LANL)*

TUESDAY, NOVEMBER 16, 2004 • 8:30 A.M. – 12:00 P.M.

BE Method Technical, Licensing and Regulatory Requirements

Technical and Philosophical Concerns in the Use of Best Estimate Methodologies in an LBLOCA Analysis Licensing Process, Maria Regina Galetti Camargo *(CNEN)*, Francesco D'Auria *(UNIPI)*

Application and Licensing Requirements of the AREVA RLBLOCA Methodology, Robert Martin *(Framatome-ANP)*

Regulatory Experience with Application of BEAU Methods in Canada, Dumitru Serghiuta, Sang Shim, Haldun Tezel *(CNSC-CCSN)*

Use of BE Methods for Licensing Purposes in Belgium, Ray Ashley, Nadine Hollasky, Marc Vincke *(AVN)*

Coupled RELAP5/PANTHER/COBRA Steam Line Break Accident Analysis in Support of Licensing DOEL 2 Power Uprate and Steam Generator Replacement, Jinzhao Zhang, Christophe Schneidesch *(Tractebel)*

Development and Application of KEPRI Realistic Evaluation Methodology (KREM) for LB-LOCA, Chang-Hwan Ban *(KNFC)*, Sang-Yong Lee *(KOPEC)*, Chang-Kyung Sung *(KEPRI)*

Uncertainty Evaluation of BE Results

Discussions on the Experimental Data Covering (EDC) Procedure, Sang Lee *(KOPEC)*, Chang-Hwan Ban *(KNFC)*

BEPU Methods and Combining of Uncertainties, Andrej Prosek, Borut Mavko *(IJS)*

Quantification of the Uncertainties of the Physical Models of CATHARE 2, Agnès de Crécy *(CEA)*

Uncertainty Evaluation and Comparison with Conservative Calculation, Horst Glaeser *(GRS)*

Application of BE+U Methodology for the Licensing Purposes in Slovakia, Marian Kristof *(UJD)*

Enlargement of the Uncertainty Database of the CIAU Methodology, Alessandro Petruzzi *(PSU)*, Walter Giannotti, Francesco D'Auria *(UNIPI)*, Kostadin Ivanov *(PSU)*

TUESDAY, NOVEMBER 16, 2004 • 1:00 P.M. – 5:00 P.M.

BE Methodology Developments in and Application to GENIV and Other Designs

Progress of Accident Analysis Codes Development for Gas-Cooled Reactors, Won-Jae Lee, Hong-Sik Lim, Jong-Hwa Chang *(KAERI)*, Hee-Cheon No *(KAIST)*, Goon-Cherl Park *(SNU)*

Best-Estimated Calculation of the Steam Line Break Accident for the SMART Design Verification Program, Young-Jong Chung, Soo-Hyoung Yang, Hee-Cheol Kim, Sung-Quun Zee *(KAERI)*

Development of Best Estimate Analysis Methods on Two-Phase Flow Thermal-Hydraulics for Reduced-Moderation Water Reactors, Kazuyuki Takase, Hiroyuki Yoshida, Masatoshi Kureta, Hidesada Tamai, Akira Ohnuki, Hajime Akimoto *(JAERI)*

Distributed Parameter Analysis of Pb-Bi Cooled Fast Reactor PEACER Core Using CFX, Sang Hyuk Yoon, Kune Suh *(SNU)*

Lumped Parameter Analysis of Pb-Bi Cooled Fast Reactor PEACER Core Using MATRA, Hyoung Son, Kune Suh, Chang Hyo Kim *(SNU)*

Dynamic Simulation of Pb-Bi Cooled Fast Reactor PEACER Using KALOS, Yong Hee Yu, Kune Suh, Chang Hyo Kim *(SNU)*

ATHENA/RELAP5-3D Applicability for Best-Estimate Modeling of Generation IV Reactor Designs, Gary Johnsen, S. Michael Modro *(INEEL)*

Other BE Thermal-Hydraulic Application Results

Best Estimate Analysis of Flow Stagnation in RBMK-1500 Reactor, Virginijus Vileiniskis, Algirdas Kaliatka, Eugenijus Uspuras *(LEI)*

RBMK-1500 Safety Assessment Using BE Accident Analysis, Algirdas Kaliatka, Rolandas Urbonas, Eugenijus Uspuras *(LEI)*

Statistical Considerations in Safety Analysis, Lenard Pal, Mihály Makai *(KFKI)*

Development and Validation of RELAP5-3D RBMK-1500 Reactor Model, Evaldas Bubelis, Algirdas Kaliatka, Eugenijus Uspuras *(LEI)*

Development of TRACG02MODT1 for Whole Bundle Simulation, Hiroshi Ono, Akira Mototani, Shinichiro Kawamura, Nobuaki Abe, Yutaka Takeuchi *(Toshiba)*

Capability of APROS in Design and Validation of I&C Systems, Heikki Kantee, Kari Porkholm *(Fortum)*

WEDNESDAY, NOVEMBER 17, 2004 • 8:30 A.M. – 10:30 A.M.

PIRT Methods and Results Supporting BE Analysis

Development of PIRT for Advanced Integral Reactor, Bub Dong Chung, Hee-Chul Kim, Kyu-Hwan Bae, Young-Jong Chung, Young Lee, Jae-Jun Jeong *(KAERI)*, Jong-Chull Jo *(KINS)*

Lessons Learned in Obtaining Efficient and Sufficient Applications of the PIRT Process, Brent Boyack *(Consultant)*, Gary Wilson *(KJS)*

Development of Phenomena Identification and Ranking Tables (PIRTs) for the Advanced CANDU Reactor, Nik Popov, Harve Sills, Amad Abdul-Razzak *(AECL)*

PIRT for Large Break LOCA Mass and Energy Release Calculations, Lawrence Smith, Richard Ofstun *(Westinghouse)*

BE Methods in Support of Core Design and Neutronic Analysis

Realistic Analysis for the PWR Rod Ejection Transient, Charles Beard, Peter Hilton, Serhat Lider, Daniel Risher, Yixing Sung *(Westinghouse)*

BE and Possible Increase of WWER-1000 Efficiency and Power, Grigori Ponomarenko, Mikhail Bykov *(GIDROPRESS)*

Development and Verification of a Coupled Code System RETRAN-MASTER-TORC, Jin Cho *(KAERI)*

Quantification of Damage in Uranium Dioxide Fuel Matrices, Charles Wemple, Abderrafi Ougouag (INEEL)

WEDNESDAY, NOVEMBER 17, 2004 • 11:00 A.M. – 12:00 P.M.

BE Methods for Research Reactor Safety Analysis

Assessment of Fuel Safety Margins with MCNP, Silva Kalcheva, Edgar Koonen, Pol Gubel *(SCK-CEN)*

TRAC-CFD Code Integration and Its Application to a Containment Analysis, Mika Tahara, Kenji Arai, Hirohide Oikawa *(Toshiba)*

BE Methods in Simulator Applications

Krsko Full Scope Simulator Validation of SBLOCA Analyses by RELAP5/MOD2, Andrej Prosek, Bozidar Krajnc *(KJS)*

Graphical User Interface System for the RELAP5-3D Best Estimate Code, George Mesina *(INEEL)*

WEDNESDAY, NOVEMBER 17, 2004 • 1:00 P.M. – 2:30 P.M.

BE Method Validation

An Uncertainty Evaluation Method and Application to Prediction of LOFT L2-5 Experiment, Young Bang *(KINS)*

Evaluation of "Weak Heat Conduction Mechanism" Model For Long-Term LOCAs in RBMK-1500, Eugenijus Uspuras, Algirdas Kaliatka *(LEI)*

Qualification of the Coupled RELAP5/PANTHER/COBRA Code Package for Licensing Applications, Christophe Schneidesch, Jinzhao Zhang *(Tractebel)*

WEDNESDAY, NOVEMBER 17, 2004 • 2:30 P.M. – 4:00 P.M.

International Program Findings and Recommendations

Simulation of Fission Product Behaviour in the Primary Circuit of the Experiment PHEBUS FPT-1 in the Context of the ISP-46 with SOPHAEROS, Gert Sdouz *(GRS)*

The BEMUSE Programme (Best-Estimate Methods— Uncertainty and Sensitivity Evaluation), Alessandro Petruzzi *(PSU)*, Francesco D'Auria *(UNIPI)*, Jean Claude Micaelli *(IRSN)*, Agnès de Crécy *(CEA)*, Jacques Royen *(OECD)*

Numerical Simulation Analysis of Three Dimensional Flow Field in the Lower Plenum of CNP1000, Changwen Liu, Xiaohua Jiang, Weihong Chen, Xueqing Huang *(NPIC)*

THURSDAY, NOVEMBER 18, 2004 • 8:30 A.M. – 11:30 A.M.

Closing Plenary

Five minute summaries by session chairs with ten minutes per summary for discussions/comments from the floor

Closing remarks by Gary E. Wilson *(Conference Co-Chair)*
Closing remarks by S. Michael Modro *(Conference Co-Chair)*

EMBEDDED TOPICAL MEETING:
2004 Operating Nuclear Facility Safety (2004 ONFS)

Robert A. Bari
Brookhaven National Laboratory
General Chair

Kevin R. O'Kula
Westinghouse Safety Management Solutions, LLC
Technical Program Chair

MONDAY, NOVEMBER 15, 2004 • 1:00 P.M. – 4:00 P.M.

Opening Plenary: 2004 Operating Nuclear Facility Safety

Speakers:
General Chair:
Robert A. Bari *(BNL)*

Honorary Chairs:
Ellis W. Merschoff *(NRC)*
Luis E. Echávarri *(OECD-NEA)*
Marvin S. Fertel *(NEI)*
Bernard Roche *(EdF/Branche Energies)*
Marty J. Virgilio *(NRC)*

TUESDAY, NOVEMBER 16, 2004 • 8:30 A.M. – 12:00 P.M.

Operational Safety Considerations for New Facilities

Safety Assessment of the Lithium Target of the International Fusion Materials Irradiation Facility, Luciano Burgazzi *(Ente per le Nuove Tecnologie l'Engerie e l'Ambiente)*

Estimating Source Terms for Diverse Spent Nuclear Fuel Types, Brett W. Carlsen, Layne F. Pincock, Jim W. Sterbentz *(INEEL)*

Mass Transfer Model for a Breached Waste Package, Cheng T. Hsu, John A. McClure *(Bechtel SAIC)*

Integration of Safety and Design for the Spallation Neutron Source Target Facility, Robert R. Lowrie *(Westinghouse SMS)*, R. M. Harrington, Tom McManamy, F. Kornegay *(ORNL)*

Accident Analysis of the Spallation Neutron Source Target Facility, Richard M. Harrington *(ORNL)*, James Eckroth *(Fire Risk Management, Inc.)*, Carl Fields *(Westinghouse SMS)*, Rich W. Leggett, R. Miller, A. Sjoreen, C. Weber *(ORNL)*

Software Quality Assurance: Safety-Related Software and Database Improvements

The Software Development Process to Produce High Reliable Safety Software for Digital Reactor Protection System, Sang Ku Nam, Hyun-Kook Shin *(KOPEC)*

Early Validation Studies of Quantitative Software Quality Assessments Using Software Metrics, Steven A. Arndt *(NRC)*

An Overview of the Reliability and Availability Data System (RADS), Dale M. Rasmuson *(NRC)*, Dan L. Jensen *(INEEL)*

The ARCON96 Atmospheric Dispersion Model, Brad Harvey, Leta Brown, Steve LaVie *(NRC)*

Significance of Updating the Meteorological Data Basis—Case Studies for the Tennessee Valley Authority, Doyle Pittman, Ken Wastrack, Norris Nielsen *(TVA)*

Status of the DNFSB Recommendation 2002-1 Implementation Plan to Upgrade SQA in the DOE Complex–Panel

Panelists:
- Robert Quirk *(DNFSB)*
- Chip Lagdon *(DOE/EH)*
- Kevin O'Kula *(WSMS)*
- Other panelists to be determined.

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

TUESDAY, NOVEMBER 16, 2004 • 1:30 P.M. – 4:30 P.M.

Decommissioning and Decontamination Experience

Nuclear Safety All Through the Decommissioning Process., Giancarlo Bolognini *(Sogin S.p.A.)*

Design Details of the BN-350 Cesium Trap, Kenneth J. Allen, Darrel R. Beebe, David A. Sell, John A. Michelbacher (ANL-West), Oleg G. Romanenko *(Kazakhstan Nuclear Technology Safety Center)*, Victor I. Maev *(Mangyshlak AEC-Kazatomprom)*, Anatoliy K. Synkov *(Kazakhstan National Nuclear Center)*

Draining the BN-350 Primary Sodium, Carl E. Baily, John A. Michelbacher *(ANL-West)*, Vladimir Korotkov, Serik Khametov *(Kazakhstan National Nuclear Center)*, Irena Tazhibayeva *(Nuclear Technology Safety Center)*, Victor I. Maev, Anatoli Melnikov *(Mangyshlak AEC-Kazatomprom)*, Sergei Talenov, Timor Zhantikin *(Kazakhstan Atomic Energy Committee)*

Technical Oversight Investigation of a Glovebox Fire at the Rocky Flats Closure Project, Herbert W. Massie Jr. *(DNFSB)*

Worker Safety at the Fernald Closure Project, Lawrence M. Zull *(DNFSB)*

Evolution of Safety Basis Documentation for the DOE Fernald Site Closure Project, Tulanda Brown, Pat Fisk, William Klein, Sharon Kohler, Fred Krach *(Fluor Fernald)*

2004 ONFS: Sessions by Day

Commercial Reactor Experience: Source Term, Aging and Fire Risk Management

Expected Source Term Evaluation Based on the Korean NPPs Data, Seong Hee Lee, Joon Gi Ahn, Hae Ryong Hwang *(KOPEC)*

Application of the Broadband Impedance Diagnostic/Prognostic Technique to Nuclear Power Plant Electric Cables, Daniel Rogovin *(The Boeing Company)*, Robert J. Lofaro *(BNL)*, Martin Kendig *(Rockwell Scientific Co.)*, Jitendra Vora *(NRC)*

Rulemaking on Operator Manual Actions for Fire Safe Shutdown, Raymond H. V. Gallucci, Alexander R. Klein *(NRC)*

Advanced Circuit Analysis Methods Development for Fire-Risk Analyses, Francis J. Wyant *(SNL)*, Dan Funk *(Edan Engineering Corp.)*

Fire Protection Regulatory Issue Resolution, Frederick A. Emerson *(NEI)*

Cable Raceway Fire Protective Wrap Fire Resistance Testing, Francis J. Wyant, Matthew Turgeon *(SNL)*

WEDNESDAY, NOVEMBER 17, 2004 • 8:30 A.M. – 12:00 P.M.

Evolution of the Safety Basis and Safety Analysis Improvements

Quantified Programmatic Safety at DOE's Pantex Plant, Greg Tidd *(BWXT Pantex)*

Implementing Tools for 10 CFR 830 Requirements, Michele Baker, Crystal Rogers *(BWXT Pantex)*

Overview of the Documented Safety Analysis at DOE's Pantex Plant, Thomas Forker *(BWXT Pantex)*

Process Hazard Analyses of Non-Nuclear Explosive Facilities/Activities, Mark Wischkaemper, Ronald Frymoyer *(BWXT Pantex)*

Leak Path Factor Evaluation Methodology for Nonreactor Nuclear Facilities, Kevin O'Kula *(Westinghouse SMS)*, Mario Polizzi *(Washington Safety Management Solutions)*

Assessing Consequences Due to Hypothetical Accident Releases from New Plutonium Facilities (U), Kevin O'Kula *(Westinghouse SMS)*

Development and Implementation of a Backfit Analysis Process, Bonnie J. Shapiro *(Westinghouse SMS)*

Research and Test Reactor, and Nuclear Laboratory Experience

Experimental Investigations of Natural Convection in a Three Layer Stratified Pool with Internal Heat Generation, Arun Kumar Nayak, Armen Stepanyan, Bal Raj Sehgal *(RIT)*

US DOE's Integrated Research Reactor Safety Enhancement Program (IRRSEP), Otis Keener Earle *(ANL)*

The Performance Test Results of JOYO MK-III Core, Yukimoto Maeda *(JNC)*

Safety Assurance for Irradiating Experiments in the Advanced Test Reactor, Terry A. Tomberlin, S. Blaine Grover *(INEEL)*

Minimizing Radiation Dose During Major Research Reactor Repairs, David Sean O'Kelly *(Univ of Texas, Austin)*, invited

Design and Renovation of Heat Transport System in the Experimental Fast Reactor JOYO, Kouzou Sumino, Takashi Ashida, Hirotaka Kawahara, Satoshi Ichige, Kazunori Isozaki, Satoru Nakai *(JNC)*

WEDNESDAY, NOVEMBER 17, 2004 • 1:30 P.M. – 3:30 P.M.

Nuclear Plant Modifications: Using Experience to Improve Safety

Dips® FMS: Innovative Neutron Flux Mapping System, Byung-Hak Cho, Chang-Hoon Shin, Sung-Il Song *(KEPRI)*

Control Room Simulator and Training in the Former Soviet Union, Jeffrey K. Ace *(PNNL)*, Volodymyr Ivanytstky *(National Nuclear Energy Generating Co.)*

Upgrading First-Generation Soviet-Designed Nuclear Power Plants to Meet International Standards—The Modernization of Armenia Nuclear Power Plant, Aram Gevorgyan *(Armenia Ministry of Energy)*, Gagik Markosyan *(Armenia Nuclear Power Plant)*, Richard S. Denning *(BMI)*, Dennis Meyers *(DOE)*, Fausto Santopadre *(ENEL)*

The Positive Contribution of Experience Feedback to the Safe Operation of Slovak Nuclear Plants, Jiri Suchomel *(Slovak Nuclear Society)*

WEDNESDAY, NOVEMBER 17, 2004 • 1:30 P.M. – 4:30 P.M.

Nuclear Safety and Regulatory Models: Risk Informed Experience

Expanding the Use of Operating Experience in Fire PRA, Steven P. Nowlen *(SNL)*

A Tool for Risk-Significant Screening of Fire-Induced Circuit Failures, Raymond H. V. Gallucci, Daniel M. Frumkin, Dariusz Szwarc *(NRC)*

Integrated Initiating Event Performance Indicator, Steven Eide *(INEEL)*, Dale M. Rasmuson *(NRC)*, C Atwood *(Statwood Consulting)*

Probability-Based Degradation Acceptance Criteria for Buried Piping Systems in Nuclear Power Plants, Joseph Braverman, Giuliano DeGrassi, Gerardo Martinez-Guridi, Richard Morante, Charles Hofmayer *(BNL)*, Tsun Yung Chang *(NRC)*

A Level-2 Seismic Probabilistic Safety Analysis of BWR-5 Plant, Susumu Sumida *(Japan Nuclear Energy Safety Organization)*

Determination of the PI Thresholds for the NPPs in Korea, Daeil Kang, Kilyou Kim, Meejung Hwang *(KAERI)*, Keyyoung Sung *(KINS)*

WEDNESDAY, NOVEMBER 17, 2004 • 3:30 P.M. – 5:00 P.M.

Vulnerability Methodology–Panel

Panelists to be determined.

THURSDAY, NOVEMBER 18, 2004 • 8:00 A.M. – 12:30 P.M.

Nuclear Safety and Regulatory Models: Is a Risk-Informed Performance-Based Technology-Neutral Nuclear Plant Regulation Within Reach?–Panel

PANELISTS:
- Georges Apostolakis *(ACRS and MIT)*
- Mary Drouin *(NRC)*
- S. Floyed *(NEI)*
- Michael Golay *(MIT)*

Nuclear Safety and Regulatory Models: New Licensing and Lessons Learned Approaches

Test Program Lessons to be Learned (A Collective Significance Analysis), William Richard Corcoran *(NSRC)*, invited

Using the New NRC Hearing Rules to Maximum Advantage, Blake Nelson *(Akin Gump Strauss Hauer & Feld)*

New NRC Hearing Rules: Hard Lessons Learned from the Trenches, Paul Gaukler *(Shaw Pittman)*

Note: This session will immediately follow the preceding session.

2004 ONFS Panel Chair Summaries: Highlights and Recommendations—Panel

PANELISTS:
- Charles Martin *(DNFSB)*
- Herbert Massie *(DNFSB)*
- Mohammed Modarres *(Univ of Maryland)*
- Robert Lowrie *(WSMS)*
- Nathan Siu *(NRC)*
- Jean-Loup-Rouyer *(EdF)*
- Dana Powers *(SNL)*

Note: This session will immediately follow the preceding session.

ANS Students' Professional Development Workshop

How can I get the most from my ANS experience?

Sunday, November 14, 2004

8:00 a.m. - 12:00 p.m.

Location: Ambassador Ballroom

Held in conjunction with the ANS Winter Meeting, the Student Workshop is designed to provide students with a working understanding of ANS operations, ideas of how to get involved both technically and in Societal governance, and an opportunity to meet personally with leaders of the Society and the nuclear industry. Registration fee ($15) includes dinner on Saturday evening and the Sunday morning workshop.

SATURDAY
Saturday evening the student group will gather for a casual meal with leaders in the many sectors of the nuclear industry. Representatives from the power industry, research laboratories, the military, radionuclide applications industry, and others will offer their perspectives on the current job market. Students will have opportunities to interact with the representatives and ask questions regarding various career paths.

SUNDAY
Sunday morning the workshop will explore the many aspects of membership in the American Nuclear Society. Discussions will include a general overview of the Society's various components and their relative functions. Avenues for student involvement will be stressed, including:

- Preparing and submitting technical papers
- Contributing to paper reviews
- Presenting talks in technical sessions
- Organizing technical sessions with the technical divisions
- Participation in Student Section Committee activities
- Governance opportunities
- Activities/ideas for student and local sections
- ANS affiliated student organizations/activities

Workshop participants are encouraged to also register for the main ANS meeting, attend technical sessions in their areas of interest, and participate in the mentor program.

DOE NUCLEAR CRITICALITY SAFETY PROGRAM

FRIDAY, NOVEMBER 19, 2004 • 8:00 A.M. - 4:00 P.M.
LOCATION: Hampton Ballroom

Sponsored by: Nuclear Criticality Safety Division

PURPOSE:

The NCSP is a comprehensive, crosscutting program that integrates the need to maintain the US criticality safety infrastructure with effective support for criticality safety programs throughout the DOE complex. Representatives of DOE management, DNFSB, and technical program element staff will discuss the status of the NCSP. The Chairman from the NRC will discuss the relationship between the NRC and the NCSP. The DOE Criticality Safety Coordinating Team and the End-Users Group will discuss status of CS within the DOE Complex. The NCSP, while not part of the official ANS program, has been arranged through the courtesy of the ANS Headquarters staff. The presentations are based on the DOE NCS Program, but because of the global application of the work supported by the DOE NCSP, feedback is encouraged from anyone interested in the needs of a diverse, well-organized criticality safety program. International, NRC and licensee criticality safety personnel are encouraged to attend. Extensive audience participation is encouraged and anticipated.

PROGRAM:

8:00 a.m.	Greetings (Jim Felty/Adolf Garcia)
8:15 a.m.	Introduction and Program Status (Dave Crandall, Mike Thompson)
8:45 a.m.	DNFSB (Bruce Matthews)
9:15 a.m.	NRC and the NCSP (Chairman Nils Diaz)
9:45 a.m.	CS in the EM World (Paul Golan)
10:15 a.m.	Break
10:30 a.m.	CS in Idaho. (Elizabeth Sellers)
11:00 a.m.	NASA (Matthew Forsbacka)
11:30 a.m.	EFCOG SAWG Issues (Pamela Horning)
NOON	LUNCH
1:00 p.m.	CSSG Status (Adolf Garcia)
1:15 p.m.	Status of TA-18 Relocation (Mike Thompson)
1:45 p.m.	Experimental activities. (Dave Hayes)
2:15 p.m.	NDAG Activities (Dick McKnight)
2:30 p.m.	ICSBEP (Blair Briggs)
2:45 p.m.	CSCT Status and Issues (JerryMcKamy/Bob Wilson)
3:00 p.m.	DOE O 420.1 and DOE Standard 3007 (JerryMcKamy)
3:30 p.m.	Endusers Group Status (Chris Robinson)
4:00 p.m.	Open Discussion Session (Adolf Garcia)
4:30 p.m.	Close Meeting (Jim Felty)

Committee Meetings

NATIONAL COMMITTEES

Accreditation Policies & Procedures
Sunday, 5:00 p.m. - 7:00 p.m.
Location: Parlor # 362

Board of Directors/ Professional Division Reports
Wednesday, 4:00 p.m. - 6:00 p.m.
Location: Regency Ballroom

Board of Directors
Thursday, 8:00 a.m. - 5:00 p.m.
Location: Regency Ballroom

Book Publishing
Sunday, 11:00 a.m. - 12:00 p.m.
Location: Governor's Boardroom

Bylaws & Rules
Sunday, 1:30 p.m. - 4:00 p.m.
Location: Council Room

Finance
Tuesday, 4:00 p.m. - 7:00 p.m.
Location: Parlor # 262

*** Honors & Awards**
Monday, 4:00 p.m. - 6:00 p.m.
Location: Parlor # 362

International
Sunday, 2:00 p.m. - 6:00 p.m.
Location: Hampton Ballroom

Local Sections/Workshop
Sunday, 8:00 a.m. - 12:00 p.m.
Location: Hampton Ballroom

Meetings, Proceedings, & Transactions
Monday, 7:30 a.m. - 8:30 a.m.
Location: Parlor # 330

Membership
Sunday, 11:00 a.m. - 1:00 p.m.
Location: Chairman's Boardroom

*** National Program Committee (NPC) – Program**
Wednesday, 4:00 p.m. - 7:00 p.m.
Location: Palladian Ballroom

*** National Program Committee (NPC) – Screening & International**
Monday, 4:00 p.m. - 7:00 p.m.
Location: Diplomat Ballroom

NEED
Sunday, 7:30 p.m. - 9:00 p.m.
Location: Parlor # 262

***NS&E* Editorial Advisory Board**
Sunday, 9:00 a.m. - 10:00 a.m.
Location: Congressional A

***NT* Editorial Advisory Board**
Sunday, 10:00 a.m. - 11:00 a.m.
Location: Congressional A

***Nuclear News* Editorial Advisory**
Sunday, 4:00 p.m. - 5:30 p.m.
Location: Forum Room

Planning
Sunday, 2:00 p.m. - 6:00 p.m.
Location: Parlor # 262

Policies & Procedures/Quality Improvement (PPQI)
Sunday, 2:00 p.m. - 4:00 p.m.
Location: Parlor # 362

President's Meeting with Committee Chairs
Sunday, 9:00 a.m. - 10:00 a.m.
Location: Diplomat Ballroom

President's Meeting with Division Chairs
Sunday, 10:00 a.m. - 12:00 p.m.
Location: Diplomat Ballroom

Professional Development Workshop
Sunday, 1:30 p.m. - 3:30 p.m.
Location: Diplomat Ballroom

*** Professional Divisions**
Tuesday, 4:00 p.m. - 7:00 p.m.
Location: Palladian Ballroom

Professional Engineering Exam
Sunday, 3:00 p.m. - 6:00 p.m.
Location: Parlor # 252

Professional Women in ANS
Monday, 11:30 a.m. - 1:00 p.m.
Location: Parlor # 273

*** Public Information**
Monday, 4:00 p.m. - 6:00 p.m.
Location: Empire Room

Public Policy
Wednesday, 11:30 a.m. - 1:00 p.m.
Location: Parlor # 273

Publications Steering
Monday, 4:00 p.m. - 6:00 p.m.
Location: Parlor # 330

***Radwaste Solutions* Editorial Advisory**
Monday, 7:00 a.m. - 8:30 a.m.
Location: Parlor # 262

Scholarship Policies & Procedures
Tuesday, 4:00 p.m. - 6:00 p.m.
Location: Council Room

Student Sections
Sunday, 12:00 p.m. - 2:00 p.m.
Location: Parlor # 262

Technical Journals
Sunday, 12:00 p.m. - 3:00 p.m.
Location: Congressional A

SPECIAL COMMITTEES

Non-Proliferation
Wednesday, 7:00 a.m. - 8:30 a.m.
Location: Parlor # 273

Power Generation Sector Outreach
Sunday, 11:30 a.m. - 1:00 p.m.
Location: Parlor # 230

OTHER COMMITTEES

CNF
Monday, 7:30 p.m. - 10:00 p.m.
Location: Parlor #330

Eagle Alliance Board of Directors
Sunday, 1:00 p.m. - 3:30 p.m.
Location: Parlor # 373

Faculty Advisors Roundtable
Monday, 7:30 a.m. - 8:30 a.m.
Location: Parlor # 362

INSC
Sunday, 8:00 a.m. - 5:00 p.m.
Location: Empire Room

Mathematics & Computation/Reactor Physics/ Radiation Protection & Shielding Joint Benchmark Meeting
Sunday, 11:00 a.m. - 1:00 p.m.
Location: Embassy Room

NEDHO
Monday, 4:30 p.m. - 6:00 p.m.
Location: Parlor # 230

Past President's Advisory
Tuesday, 7:00 a.m. - 9:00 a.m.
Location: Parlor # 262

PNC
Sunday, 8:00 a.m. - 5:00 p.m.
Location: Palladian Ballroom

UWC 2005 Planning Committee
Sunday, 10:00 a.m. - 11:30 a.m.
Location: Council Room

DIVISION COMMITTEES

Accelerator Applications

EXECUTIVE
Monday, 11:30 a.m. - 1:30 p.m.
Location: Parlor # 362

PROGRAM/MEMBERSHIP
Sunday, 7:30 p.m. - 9:30 p.m.
Location: Calvert Room

Aerospace Nuclear Science and Technologies
Sunday, 10:00 a.m. - 12:00 p.m.
Location: Congressional B

Biology & Medicine

COMMITTEE OF THE WHOLE
Sunday, 4:00 p.m. - 5:30 p.m.
Location: Parlor # 230

Decommissioning, Decontamination & Reutilization

COMMITTEE MEETING
Sunday, 1:00 p.m. - 5:30 p.m.
Location: Cabinet Room

Education & Training

ALPHA NU SIGMA
Sunday, 11:00 a.m. - 12:00 p.m.
Location: Congressional A

Committee Meetings

EXECUTIVE/MEMBERSHIP/
HONORS & AWARDS
Sunday, 1:30 p.m. - 4:00 p.m.
Location: Forum Room

PROGRAM
Sunday, 10:30 a.m. - 12:00 p.m.
Location: Forum Room

UNIVERSITY/INDUSTRY RELATIONS
Sunday, 9:30 a.m. - 10:30 a.m.
Location: Governor's Boardroom

Environmental Sciences

EXECUTIVE
Sunday, 10:00 a.m. - 2:30 p.m.
Location: Parlor # 330

PROGRAM
Sunday, 8:30 a.m. - 10:00 a.m.
Location: Parlor # 330

Fuel Cycle & Waste Management

EXECUTIVE
Sunday, 3:30 p.m. - 5:30 p.m.
Location: Senate Room

TECHNICAL OPERATING COMMITTEE
AND LUNCHEON
Sunday, 12:00 p.m. - 3:30 p.m.
Location: Senate Room

Human Factors

EXECUTIVE/PROGRAM
Monday, 4:30 p.m. - 6:30 p.m.
Location: Parlor # 373

Isotopes & Radiation

EXECUTIVE
Sunday, 2:30 p.m. - 4:00 p.m.
Location: Parlor # 462

JOINT PROGRAM COMMITTEE - I&R & BM
Sunday, 1:30 p.m. - 2:30 p.m.
Location: Parlor # 230

Materials Science & Technology

EXECUTIVE
Monday, 7:00 p.m. - 9:00 p.m.
Location: Parlor # 230

Mathematics & Computation

EXECUTIVE
Sunday, 2:00 p.m. - 4:00 p.m.
Location: Embassy Room

PROGRAM
Sunday, 1:00 p.m. - 2:00 p.m.
Location: Embassy Room

Nuclear Criticality Safety

EDUCATION
Sunday, 10:00 a.m. - 11:00 a.m.
Location: Chairman's Boardroom

EXECUTIVE
Sunday, 3:00 p.m. - 5:30 p.m.
Location: Parlor # 330

PROGRAM
Sunday, 1:00 p.m. - 3:00 p.m.
Location: Chairman's Boardroom

Nuclear Installation Safety

EXECUTIVE
Monday, 5:00 p.m. - 8:00 p.m.
Location: Parlor # 262

PROGRAM
Sunday, 7:30 p.m. - 11:00 p.m.
Location: Parlor # 373

Operations & Power

EXECUTIVE
Sunday, 3:00 p.m. - 6:00 p.m.
Location: Calvert Room

NEW CONSTRUCTION WORKING GROUP
Monday, 6:00 p.m. - 8:00 p.m.
Location: Cabinet Room

NUCLEAR WORKFORCE WORKING GROUP
Sunday, 12:00 p.m. - 2:00 p.m.
Location: Parlor # 362

PROGRAM
Sunday, 1:00 p.m. - 3:00 p.m.
Location: Calvert Room

Radiation Protection & Shielding

EXECUTIVE
Monday, 5:00 p.m. - 7:00 p.m.
Location: Parlor # 252

PROGRAM
Monday, 4:00 p.m. - 5:00 p.m.
Location: Parlor # 252

Reactor Physics

EXECUTIVE
Sunday, 4:00 p.m. - 6:00 p.m.
Location: Council Room

GOALS & PLANNING
Sunday, 12:00 p.m. - 2:00 p.m.
Location: Congressional B

PROGRAM
Sunday, 2:00 p.m. - 4:00 p.m.
Location: Congressional B

Robotics & Remote Systems

EXECUTIVE
Sunday, 11:00 a.m. - 4:00 p.m.
Location: Parlor # 273

Technical Group on Computational Medical Physics

Monday, 11:30 a.m. - 1:00 p.m.
Location: Parlor # 330

Thermal Hydraulics

EXECUTIVE
Sunday, 5:00 p.m. - 7:00 p.m.
Location: Chairman's Boardroom

HONORS & AWARDS
Tuesday, 5:00 p.m. - 7:00 p.m.
Location: Parlor # 362

PROGRAM
Sunday, 3:00 p.m. - 5:00 p.m.
Location: Chairman's Boardroom

STANDARDS COMMITTEES

ANS Standards Board

Tuesday, 9:00 a.m. - 5:00 p.m.
Location: Chairman's Boardroom

ANS 2.15, 2.16, & 2.21 Working Groups

Tuesday, 1:00 p.m. - 6:00 p.m.
Location: Parlor # 330

ANS 6.1.1 Working Group

Tuesday, 8:00 a.m. - 10:00 a.m.
Location: Parlor # 330

ANS 8.1

Saturday, 8:00 a.m. - 5:00 p.m.
Location: Parlor # 362

ANS 8.12 Working Group

Monday, 4:30 p.m. - 5:30 p.m.
Location: Parlor # 273

ANS 8.21

Monday, 7:00 a.m. - 8:00 a.m.
Location: Parlor # 252

Tuesday, 7:00 a.m. - 8:00 a.m.
Location: Parlor # 362

ANS 8.26 Working Group

Tuesday, 7:00 a.m. - 8:30 a.m.
Location: Parlor # 252

ANS 8.3

Sunday, 8:00 a.m. - 3:00 p.m.
Location: Parlor # 252

ANS 19

Monday, 8:30 a.m. - 10:30 a.m.
Location: Parlor # 273

ANS 51.1/52.1

Tuesday, 8:00 a.m. - 5:00 p.m.
Location: Parlor # 273

ANS 53.1

Tuesday, 1:00 p.m. - 5:00 p.m.
Location: Parlor # 362

Wednesday, 8:00 a.m. - 12:00 p.m.
Location: Parlor # 362

ANS 58.23

Thursday, 8:30 a.m. - 5:00 p.m.
Location: Chairman's Boardroom

N17

Wednesday, 10:00 a.m. - 12:00 p.m.
Location: Parlor # 330
Invited Guests: ISO TC85/SC6

NFSC

Monday, 8:30 a.m. - 6:00 p.m.
Location: Chairman's Boardroom

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

** Please note that 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 14, 2004
6:00 p.m. - 7:30 p.m.
(ANS President's Reception)

Monday, November 15, 2004
11:30 a.m. - 6:00 p.m.
(Luncheon • Caricaturist • Prizes • Reception)

Tuesday, November 16, 2004
10:00 a.m. - 2:00 p.m., 4:00 - 6:00 p.m.
(Refreshments • Caricaturist • Prizes • Expo Fest)

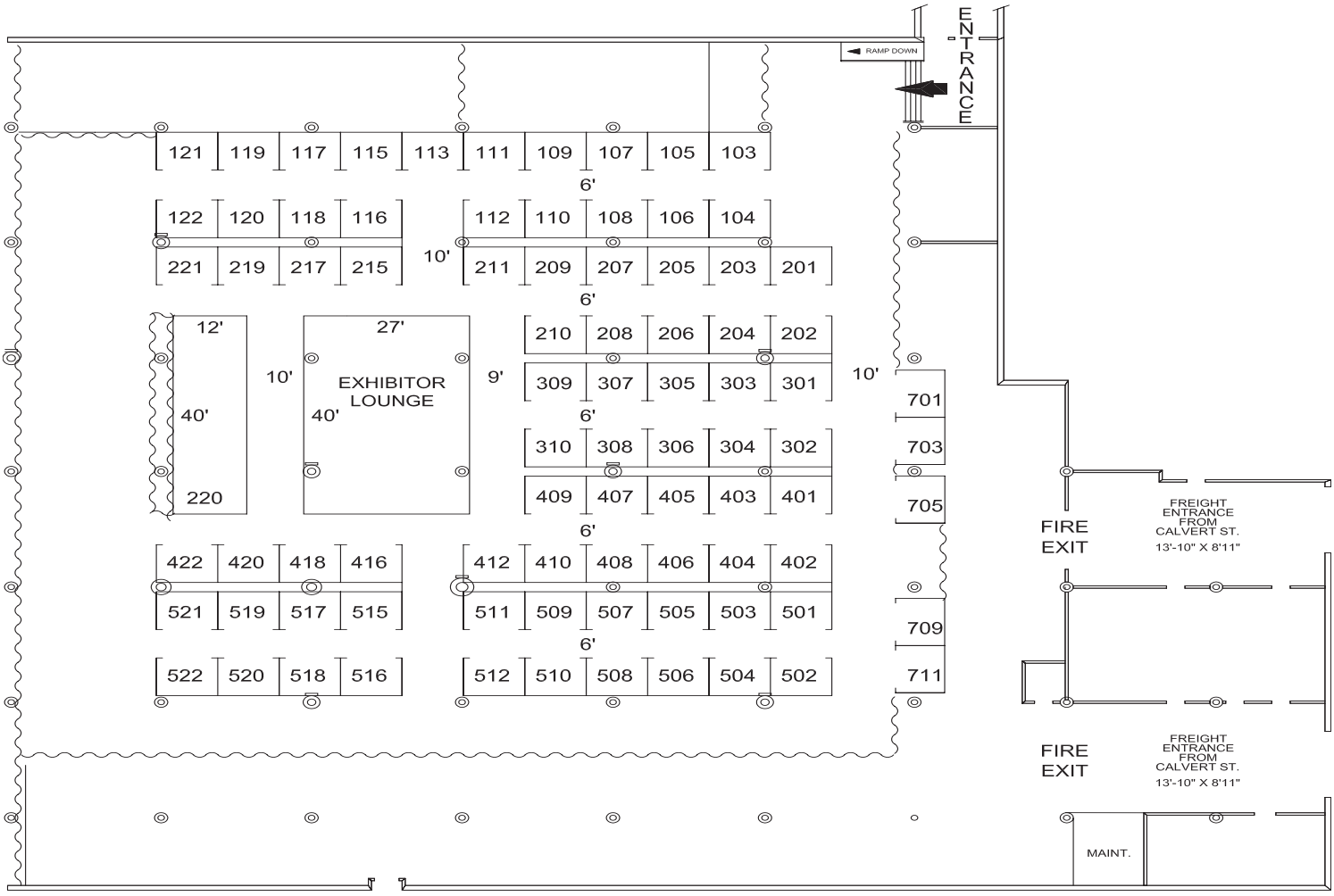
Introduction

The ANS Nuclear Technology Expo will be held November 14-16 in the Lower Level Exhibit Hall of the Omni Shorham Hotel. The Expo will open Sunday from 6-7:30pm for the ANS President's Reception. Many other special events will take place in the Hall on Monday and Tuesday. (Some 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.

Alaron Corporation	**310**
Allegheny Technologies Incorporated	**408**
Allied Tube & Conduit	**116**
American Nuclear Society	**103, 105**
AREVA	**109**
Barnhart Crane & Rigging	**108**
Bechtel Nuclear Power	**416, 418**
Bigge Power Constructors	**217**
Black and Veatch	**203**
BNFL Inc.	**115**
The Boeing Company	**202, 204**
BWX Technologies	**208**
Canberra Industries	**111**
Cardinal Health	**305**
Central Research Labs	**410**
EaglePicher Technologies, LLC	**219**
EDO Corporation	**304**
EXCEL Services Corporation	**220**
Hudson Global Resources	**107**
INEEL	**221**
Ionics, Inc.	**401**
KEPRI (Korea Electric Power Research Institute)	**303**
Landauer Inc.	**104**
Liburdi Dimetrics Corporation	**406**
LND, Inc.	**302**
TRUMPF Inc.	**106**
Major Tool & Machine, Inc.	**409**
Mega-Tech Services, Inc.	**215**
MHF Logistical Solutions, Inc.	**113**
National Atomic Museum	**309**
Newport News Industrial	**422**
Nuclear Energy Institute	**117**
Nuclear Management Company	**201**
Nuclear News/Radwaste Solutions	**103, 105**
Nuclear Plant Journal	**210**
Oak Ridge National Laboratory	**301**
OECD Nuclear Energy Agency	**306**
The Organization of CANDU, Ind. (OCI)	**402, 404**
Private Fuel Storage, LLC	**211**
Radion Technologies	**209**
Southern California Edison	**307**
Stäubli Corporation	**420**
Thermo Electron, CIDTEC Cameras	**412**
University of Missouri	**112**
U.S. Department of Labor	**206**
U.S. DOE/Office of Nuclear Energy	**405, 407**
U.S. Nuclear Regulatory Commission	**308**
Washington Safety Management Solutions	**110**

FLOOR PLAN

Lower Level Exhibit Hall – Omni Shoreham Hotel



40,877 Sq. Ft. - 23' x 177'

SCALE: 0 5 10 20

ALL BOOTHS ARE 8'X10'
UNLESS OTHERWISE NOTED

"EXHIBITION PLANS"
PLAN SUBJECT TO FIRE MARSHAL APPROVAL

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

AECL Technologies

Bechtel Nuclear Power

EXCEL Services Corporation

Private Fuel Storage LLC

For detailed information, or to request an Exhibitor Prospectus, contact Sharon Bohlander at 1-800-250-3678 x227.
Visit our Web site: www.earlbeckwith.com

Mentor Registration Form

The Mentoring Program is a unique opportunity for Mentors to invest in the future by connecting with the next shooting stars (new members, first-time meeting attendees, and student members) of the nuclear industry. It's a chance for those new to the profession to connect with "those in the know;" experienced professionals with real-world knowledge to share.

What are the benefits for Mentors and Protégés?

Mentors
· Influence the future
· Keep up to date
· Leave a legacy

Protégés
· Fast track a career
· Get individual attention
· Build a professional relationship

If you are the next shooting star of the nuclear industry or you wish to catch a shooting star, sign up today to participate in the ANS Mentoring Program. You'll be given information to guide you and support from previous program participants. Of course, you'll be connected with someone whose interests match your own with the potential for lifelong learning and friendship.

Yes. I want to be a: _____Mentor _____Protégé

(Please print all information)

Name

Company or School

Address City / State / Zip

Phone Fax Email

Professional Interests:

Please list the Divisions and Committees of which you are, or would like to be, a member:

Please mail, fax, or email this form by November 5, 2004 to:

Membership Department
American Nuclear Society
555 N. Kensington Avenue
La Grange Park, IL 60526
Phone: 800-323-3044 Fax: 708-579-8295 Email: sbraland@ans.org

ADVANCE REGISTRATION FORM

2004 ANS WINTER MEETING

"Leadership Towards a Progressive, Integrated Nuclear Community – Going Forward Together"

EMBEDDED TOPICAL MEETING:

BE 2004 (Best Estimate Twenty-O-Four)

EMBEDDED TOPICAL MEETING:

Operating Nuclear Facility Safety

November 14-18, 2004 • Washington, D.C. • Omni Shoreham Hotel

FILL OUT COMPLETELY - PLEASE PRINT

ANS ID #: _____

First Name/Middle Initial: _____ Last Name: _____

Job Title: _____ Company/Affiliation: _____

Street Address: _____ ❒ Company or ❒ Home

City/State/Zip Code: _____ Country: _____

Telephone: _____ Facsimile: _____

Email: _____

ANS Members, Please Check If This Is Your: ❒ New Address *(will change member record)* or ❒ Meeting Registration Address Only

Please Indicate: ❒ ANS National Individual Member ❒ ANS Fellow ❒ Emeritus Member ❒ Student
❒ Non-member ❒ Non-member Invited Speaker ❒ Organization Member Representative
❒ Special accommodation required to fully participate (40) ❒ Exhibitor
❒ ANS Local Section Member *(ANS Local Section Members who are not national members, do not qualify for ANS Member rate.)*

INDIVIDUAL CONFERENCE REGISTRATION – PREREGISTRATION DEADLINE FOR REDUCED FEE IS OCTOBER 22, 2004

	Fees Paid By October 22, 2004		Fees Paid After October 22, 2004	
	ANS National Member	Non-member*	ANS National Member	Non-member*
Full ANS & Topical Meetings	[01] ❒ $590	[02] ❒ $740	[09] ❒ $690	[10] ❒ $840
Includes 1 ticket to the ANS President's Reception & attendee lunch in the expo				
One Day Attendance	[03] ❒ $450	[04] ❒ $600	[11] ❒ $525	[12] ❒ $675
Circle One: Mon Tues Wed Thur does not include ticket to the ANS President's Reception or other events				
Student	[05] ❒ $75	[06] ❒ $125	[13] ❒ $125	[14] ❒ $175
does not include ticket to the ANS President's Reception or other events				
ANS Student Professional Development Workshop Sunday, November 14, 2004	[50] ❒ $15			
registration for the ANS Student Professional Development Workshop is separate from, and in addition to, the 2004 ANS Winter Meeting. If attending both, the workshop and the winter meeting, you must register and pay for them both. Registration for the student workshop includes related activities and copies of workshop material.				
ANS Emeritus Member	[07] ❒ $75	N/A	[15] ❒ $125	N/A
does not include ticket to the ANS President's Reception or other events				
Spouse/Guest	[08] ❒ $110	N/A	[16] ❒ $155	N/A
(Includes 1 ticket to the ANS President's Reception and admittance to the spouse/guest hospitality breakfast on Monday, Tuesday, & Wednesday - does not include technical sessions or other events.)				

Please supply spouse/guest name: _____

All meeting attendees, please note:
You must select one of the meeting publications (choice [41], [42], or [43] on the following page, or the TRANSACTIONS will be given to you by default.

PLEASE REGISTER ON-SITE AFTER WEDNESDAY, November 10, 2004.

CONTINUED ON THE NEXT PAGE. PLEASE RETURN BOTH PAGES WITH PAYMENT.

NAME: _____

SPECIAL EVENTS AND TOURS

SUNDAY, NOVEMBER 14, 2004

ADDITIONAL TICKETS FOR ANS PRESIDENT'S RECEPTION — [21] # OF TICKETS ___ @ $65 EACH = $_____

MONDAY, NOVEMBER 15, 2004

SPOUSE/GUEST TOUR: "WELCOME TO WASHINGTON" — [22] # OF TICKETS ___ @ $30 EACH = $_____
ADDITIONAL TICKETS FOR ATTENDEE LUNCHEON (IN THE NUCLEAR TECHNOLOGY EXPO) — [23] # OF TICKETS ___ @ $45 EACH = $_____
EVENING EVENT: RECEPTION AT THE INTERNATIONAL SPY MUSEUM — [24] # OF TICKETS ___ @ $50 EACH = $_____

TUESDAY, NOVEMBER 16, 2004

SPOUSE/GUEST TOUR: "CELEBRATED GARDENS AND GREAT ESTATES" — [25] # OF TICKETS ___ @ $58 EACH = $_____
HONORS AND AWARDS LUNCHEON — [26] # OF TICKETS ___ @ $45 EACH = $_____
EVENING EVENT: OPERATING NUCLEAR FACILITY SAFETY BANQUET — [27] # OF TICKETS ___ @ $65 EACH = $_____

WEDNESDAY, NOVEMBER 17, 2004

SPOUSE/GUEST TOUR: "ANNAPOLIS: THE U.S. NAVAL ACADEMY" — [28] # OF TICKETS ___ @ $40 EACH = $_____
NUCLEAR INSTALLATIONS SAFETY DIVISION (NISD) LUNCHEON — [29] # OF TICKETS ___ @ $45 EACH = $_____
MATERIALS SCIENCE AND TECHNOLOGY DIVISION (MSTD) AWARDS LUNCHEON — [30] # OF TICKETS ___ @ $45 EACH = $_____
EVENING EVENT: RECEPTION AT THE BRITISH EMBASSY — [31] # OF TICKETS ___ @ $50 EACH = $_____

MEETING PUBLICATIONS

ALL REGISTERED MEETING ATTENDEES WILL RECEIVE EITHER A CD-ROM OF THE ANS WINTER MEETING SUMMARIES OR A CD-ROM OF EITHER OF THE EMBEDDED TOPICAL MEETINGS PROCEEDINGS. INDICATE WHICH MEETING PUBLICATION YOU WISH TO RECEIVE (SELECT ONE):

[41] ___ TRANSACTIONS (VOLUME 91) CONTAINS SUMMARIES FROM THE ANS WINTER MEETING (CD-ROM ONLY)
[42] ___ "BE 2004 (BEST ESTIMATE TWENTY-O-FOUR)" FULL PAPER PROCEEDINGS (CD-ROM ONLY)
[43] ___ "OPERATING NUCLEAR FACILITY SAFETY" FULL PAPER PROCEEDINGS (CD-ROM ONLY)

ADDITIONAL PUBLICATIONS AVAILABLE FOR PURCHASE:

[44] ❒ I WANT TO PURCHASE A COPY OF THE ANS TRANSACTIONS (WINTER MEETING SUMMARIES) ON CD-ROM FOR $75 — $_____
[45] ❒ I WANT TO PURCHASE A COPY OF THE FULL PAPERS PRESENTED AT THE "BE 2004" EMBEDDED TOPICAL MEETING ON CD-ROM FOR $75 — $_____
[46] ❒ I WANT TO PURCHASE A COPY OF THE FULL PAPERS PRESENTED AT THE "OPERATING NUCLEAR FACILITY SAFETY" EMBEDDED TOPICAL MEETING ON CD-ROM FOR $75 — $_____
[47] ❒ I WANT TO PURCHASE A PRINTED COPY OF THE ANS TRANSACTIONS (WINTER MEETING SUMMARIES) FOR $25 — $_____

~~ANS PROFESSIONAL DEVELOPMENT WORKSHOP: ADVANCED GAS REACTOR TECHNOLOGY COURSE (2 DAY WORKSHOP)~~

~~REGISTRATION FOR THE ANS PROFESSIONAL DEVELOPMENT WORKSHOP IS SEPARATE FROM, AND IN ADDITION TO, THE 2004 ANS WINTER MEETING. IF ATTENDING BOTH, A WORKSHOP AND THE WINTER MEETING, YOU MUST REGISTER AND PAY FOR THEM BOTH. REGISTRATION FOR THE WORKSHOP INCLUDES COPIES OF AVAILABLE PAPERS AND MATERIALS. PLEASE REGISTER EARLY, SPACE IS LIMITED!~~

CANCELED!

~~"ADVANCED GAS REACTOR TECHNOLOGY COURSE (2 DAY WORKSHOP)" – THURSDAY, NOVEMBER 18, 2004 AND FRIDAY, NOVEMBER 19, 2004~~

~~ANS NAT'L MEMBER [52] ❒ @ $475~~ ~~NON-MEMBER [53] ❒ @ $575~~ $_____

*ATTENTION NON-MEMBER REGISTRANTS:

NON-MEMBER FEE ENTITLES YOU TO A ONE-TIME FREE MEMBERSHIP IN THE AMERICAN NUCLEAR SOCIETY (DATE OF PROCESSED APPLICATION THROUGH DEC 2005). YOU MUST FIRST FILL OUT A MEMBERSHIP APPLICATION. AFTER YOUR APPLICATION IS PROCESSED, YOU WILL BE SENT A MEMBERSHIP CARD AND *NUCLEAR NEWS* MAGAZINE, BEGINNING YOUR BENEFITS. NON-U.S. RESIDENTS WILL NEED TO PAY $54 FOR *NUCLEAR NEWS* POSTAGE. THIS OFFER DOES NOT APPLY TO THOSE REGISTERED FOR WORKSHOPS ONLY. FREE MEMBERSHIP AVAILABLE TO NON-MEMBERS ONLY (CANNOT BE USED FOR MEMBERSHIP RENEWAL).

[75] ❒ I WANT TO BE A MEMBER OF ANS. MY MEMBERSHIP BENEFITS WILL BE IN EFFECT FROM DATE OF PROCESSED APPLICATION THROUGH DECEMBER, 2005.
[76] ❒ I DO NOT WANT TO BE A MEMBER OF ANS.

GRAND TOTAL AND FORM OF PAYMENT FOR MEETINGS, TOURS AND WORKSHOPS

TOTAL OF ALL FUNCTIONS AND EVENTS — **GRAND TOTAL** $_____

METHOD OF PAYMENT

❒ CHECK ❒ AMERICAN EXPRESS ❒ VISA ❒ MASTERCARD ❒ DINERS CLUB ❒ WIRE TRANSFER

CREDIT CARD NUMBER: _____ EXP. DATE: _____

CARDHOLDER'S SIGNATURE: _____

PRINT CARDHOLDER'S NAME IF DIFFERENT THAN REGISTRANT

PLEASE REGISTER ON-SITE AFTER WEDNESDAY, NOVEMBER 10, 2004.

MAKE CHECKS PAYABLE TO ANS IN U.S. FUNDS AND MAIL TO ANS, P.O. BOX 97781, CHICAGO, IL 60678-7781. CREDIT CARD REGISTRATIONS MAY BE FAXED TO 708/579-8314. DO NOT MAIL REGISTRATIONS WHICH HAVE BEEN FAXED. REGISTRATION CANCELLATIONS MUST BE MADE IN WRITING PRIOR TO OCTOBER 22ND IN ORDER TO RECEIVE A REFUND MINUS A $75 PROCESSING FEE. SPECIAL EVENT AND TOUR TICKETS WILL BE REFUNDED IN FULL IF CANCELLATION REQUEST IS RECEIVED BY OCTOBER 22ND. MEETING REGISTRATIONS, SPECIAL EVENT AND TOUR TICKETS CANCELED AFTER OCTOBER 22ND WILL NOT BE REFUNDED; HOWEVER,YOU MAY SEND A SUBSTITUTE. PLEASE CONTACT THE ANS REGISTRAR AT TELEPHONE NUMBER: 708/579-8316 OR EMAIL: registrar@ans.org WITH ANY QUESTIONS.

ANS 2004 WINTER MEETING
November 14-18, 2004

RESERVATION DEADLINE: OCTOBER 28, 2004

HOTEL TELEPHONE - MAIN LINE: 202-234-0700
RESERVATIONS TELEPHONE: 800-843-6664
RESERVATIONS FAX: 202-756-5145

FOR RESERVATIONS, EITHER CALL OR SEND THIS FORM DIRECTLY TO THE HOTEL – DO NOT SEND THIS FORM TO THE AMERICAN NUCLEAR SOCIETY

PLEASE PRINT OR TYPE (* REQUIRED)

GUEST NAME(S): _____

COMPANY: _____

MAILING ADDRESS: _____

CITY/STATE/ZIP: _____ COUNTRY: _____

TELEPHONE: _____ FACSIMILE: _____

ARRIVAL DATE: _____ DEPARTURE DATE: _____

PREFERRED ACCOMMODATIONS

SPECIAL REQUEST: ❒ SMOKING ❒ NON-SMOKING ❒ HANDICAP ACCESSIBLE

BED REQUEST: ❒ TWO DOUBLE BEDS ❒ ONE KING BED

ROOM RATE*: ❒ $195.00 *(SINGLE OR DOUBLE OCCUPANCY)*

* THERE IS A $30 CHARGE FOR EACH ADDITIONAL PERSON.

ADDITIONAL SPECIAL REQUESTS: _____

EXPECTED ARRIVAL TIME: _____

CHECK-IN TIME IS 3:00 P.M. • CHECK-OUT TIME IS 12:00 P.M.

METHOD OF PAYMENT

CHECK # _____

CREDIT CARD

❒ AMERICAN EXPRESS ❒ VISA ❒ MASTER CARD ❒ DINERS CLUB ❒ CARTE BLANCHE ❒ DISCOVER

CREDIT CARD NUMBER: _____ EXPIRATION DATE: _____

CARDHOLDER'S NAME: _____ DEPOSIT AMOUNT: _____

CARDHOLDER'S SIGNATURE: _____

PLEASE NOTE: RESERVE YOUR ROOM EARLY! RESERVATIONS MUST BE MADE BY OCTOBER 28, 2004.

- RESERVATIONS RECEIVED AFTER THE DEADLINE DATE WILL BE SUBJECT TO AVAILABILITY AND WILL BE CHARGED AT THE HOTEL'S PREVAILING ROOM RATE.
- THE HOTEL'S CHECK-IN TIME IS 3:00 P.M. ROOM ASSIGNMENTS PRIOR TO THAT TIME ARE ON A "SPACE AVAILABILITY" BASIS ONLY.
- THE HOTEL'S CHECK-OUT TIME IS 12:00 P.M. GROUP ATTENDEES STAYING IN THEIR ROOMS BEYOND CHECK-OUT TIME WITHOUT HOTEL AUTHORIZATION WILL BE CHARGED FOR AN ADDITIONAL ROOM NIGHT. LATE CHECK-OUT IS PROVIDED BASED ON AVAILABILITY AND IS SUBJECT TO THE HOTEL'S BUSINESS NEEDS. ARRANGEMENTS CAN BE MADE BY CONTACTING THE FRONT DESK AND REQUESTING LATE CHECK-OUT.
- ONE NIGHT'S DEPOSIT OR CREDIT CARD INFORMATION MUST ACCOMPANY RESERVATION TO GUARANTEE ROOM.
- YOUR DEPOSIT GUARANTEES YOUR ROOM. PLEASE TELEPHONE CHANGES TO OUR RESERVATION DEPARTMENT AT 800-843-6664. FAILURE TO CANCEL YOUR RESERVATION 72 HOURS PRIOR TO YOUR ARRIVAL DAY WILL RESULT IN ONE NIGHT'S ROOM AND TAX BEING CHARGED TO YOUR CREDIT CARD OR LOSS OF DEPOSIT.
- IN THE EVENTS OF SHARE-WITHS OR ROOMMATES, PLEASE SEND ONLY ONE FORM.
- ALL RATES ARE SUBJECT TO APPLICABLE TAXES, SUBJECT TO CHANGE WITHOUT NOTICE. (CURRENT OCCUPANCY TAX IS 14.5%)

ANS Organization Members

Aare-Tessin Ltd. for Electricity (Atel)
AECL
American Electric Power Service Corp.
American Tank & Fabricating
ANATECH Corporation
Arizona Public Service Co.
Assurx, Inc.
The Atlantic Group

Battelle Memorial Institute
Bechtel Power Corp.
Bigge Crane and Rigging Co.
BKW FMB Energy LTD
Black & Veatch
BNFL, Inc.
Brackett Green U.S.A., Inc.
R. Brooks Associates, Inc.
Burns & Roe Enterprises, Inc.

CAE Electronics Ltd.
Cardinal Health
Central Research Laboratories
Cogema, Inc.
Constellation Energy Group
CP&L and Florida Power-Progress Energy Companies

Defense Threat Reduction Agency
Detroit Edison Company
Dominion Generation
DuBose National Energy Service
Duke Energy Corporation

Eagle-Picher Industries, Inc.
Entergy Operations Inc.
EPRI
EXCEL Services Corporation
Exelon Nuclear Co.

Federation of Electric Power Companies of Japan
FENOC
Florida Power & Light
Framatome ANP, Inc.

General Atomics
GNSI

Hans Walischmiller GMBH

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Indiana Michigan Power Co./ D.C. Cook Nuclear Power Plant
Institute of Nuclear Safety Systems, Inc.

Kernkraftwerk Leibstadt AG
Kinemetrics Inc.
Korea Atomic Industrial Forum, Inc.
Krsko Nuclear Power Plant

Lawrence Livermore National Laboratory
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McCallum-Turner, Inc.
Mega-Tech Services, Inc.
MHF Logistical Solutions, Inc.
MPW Industrial Services, Inc.

Navarro Research & Engineering
Nebraska Public Power District
NEI
Nordostschweizerische Kraftwerke AG
Nuclear Management Co., LLC
Nuclear Placement Services Inc.
NUMANCO LLC

Overly Manufacturing Company

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

Reef Industries, Inc.
ROS Inc.

SAIC
Sargent & Lundy
Southern California Edison
Southern Nuclear Operating Co.
Stone & Webster Engineering Corp.

Technical Associates
TXU Electric

University of Missouri – Columbia
USEC Inc.

Washington Group International
Westinghouse Electric Corp.
Wyle Laboratories

About the American Nuclear Society

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, 19 professional divisions/technical groups, 37 U.S. and 9 non-U.S. local sections/affiliated societies, 14 plant branches, and 31 student branches. 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.