

Health Physics Society Midyear Meeting

Issues in Waste Management



2012 Topical Meeting of: Health Physics Society

(The Forty-Fifth Midyear Topical Meeting of the Health Physics Society)

American Academy of Health Physics



Sunday 5 February -
Wednesday 8 February 2012

Preliminary Program

*Dallas, Texas
The Fairmont Dallas*

Health Physics Society Committee Meetings

Saturday, February 4, 2012

FINANCE COMMITTEE

8:00 AM - NOON

ABHP PART II PANEL WORKSHOP

8:00 AM - 5:00 PM

HPS EXECUTIVE COMMITTEE

Noon - 5:00 PM

Sunday, February 5, 2012

AAHP EXECUTIVE COMMITTEE

8:00 AM - 5:00 PM

ABHP PART II PANEL WORKSHOP

8:00 AM - 5:00 PM

HPS BOARD OF DIRECTORS

8:00 AM - 5:00 PM

PROGRAM COMMITTEE

10:00 AM - NOON

Monday, February 6, 2012

LAB ACCREDITATION POLICY COMMITTEE

8:00 - 10:00 AM

LAB ACCREDITATION ASSESSMENT COMMITTEE

10:00 AM - NOON

HISTORY COMMITTEE

12:00 - 2:00 PM

AD HOC COMMITTEE ON LAB ACCREDITATION POLICY

12:30 - 2:30 PM

ANSI N42.323AB

1:30 - 5:00 PM

Tuesday, February 7, 2012

SOUTH TEXAS CHAPTER BREAKFAST MEETING AND EXECUTIVE COUNCIL

7:00-10:00 AM

ANSI N42.323AB

9:30 AM-5:00 PM

HOMELAND SECURITY COMMITTEE

4:30 - 6:00 PM

Wednesday, February 8, 2012

SCIENTIFIC AND PUBLIC ISSUES COMMITTEE

1:00 - 3:00 PM

PROGRAM COMMITTEE

12:30 - 2:00 PM

OOPS!

We cancelled it because we didn't know you wanted it!

Sometimes excellent courses with super instructors are cancelled when too many people wait until the last minute to register. We need a minimum number of participants enrolled before a class can take place in order to cover costs.

This applies to tours as well as classes.

Don't wait - avoid disappointment - register early!

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DALLAS, TEXAS

Welcome to Dallas!

Dallas, Texas, is the ninth-largest city and part of the fourth-largest metropolitan area in the nation. Dallas covers approximately 343 square miles and has a population of 1,299,543. The ultramodern and sophisticated city attracts worldwide travelers, making the area the number one visitor and leisure destination in Texas.

Dallas is centrally located and within a four-hour flight from most North American destinations. DFW International Airport is the world's third-busiest airport, offering nearly 1,750 flights per day and providing nonstop service to 138 domestic and 38 international destinations worldwide annually. In addition, Dallas Love Field Airport is conveniently located 10 minutes from downtown. Once here, visitors can ride one of the fastest-growing light-rail systems in the nation or the historic, free McKinney Avenue Trolley from the Dallas Arts District throughout the Uptown area with its restaurants, pubs, boutique hotels, and shops.

Throughout the city, a visitor will enjoy the best shopping in the southwest, four- and five-diamond/star hotels and restaurants, the largest urban arts district in the nation, 13 entertainment districts, and much more. Blend in moderate weather, year-round sports, and true Southern hospitality for a true "taste" of the Dallas difference. Visitors are exposed to a city that models its slogan, "Live large. Think big.™" Its pioneering spirit is alive and well, and the philanthropic contributions from its many residents continue to enrich the community and quality of life.

WEATHER

The average temperatures in Dallas in February range from a low of 41 degrees F to a high of 61 degrees F. Be sure to bring a light jacket, but should be nice temperatures indeed for all those from the North!

HEADQUARTERS HOTEL

Dallas Fairmont

1717 N Akard Street

Dallas, TX 75201

214-720-2020; FAX: 214-720-7405

The Dallas Fairmont has been chosen as the headquarters hotel for the Midyear Topical Meeting with a special rate of \$138 single/double. The block of rooms has been reserved from February 1-10, 2012. You can make your reservations from the HPS Meetings website link, https://resweb.passkey.com/Resweb.do?mode=welcome_ei_new&eventID=3712432, or call the hotel directly and mention the Health Physics Society. Please note that the rates do not include tax. Reserve early to ensure a room at the group rate; the cutoff date is **January 6, 2012**, however, once the block is sold out, rooms may not be available at the group rate.

The Dallas Fairmont hotel is ideally located in the heart of the downtown Dallas Arts District—offering fine dining, shopping, arts, and entertainment—and combines hospitality and elegance with Texas flair. Fairmont's Dallas hotel is a few blocks from the Central Business District and the Financial District, less than one mile from Victory Park (home of the American Airlines Center) and Shopping in Dallas, known for its shopping and lively restaurants, and two miles from the exciting upscale boutiques, eateries, and nightlife of nearby Uptown/West Village.

TRANSPORTATION

There is a public shuttle with service from both DAL and DFW airports, which costs approximately \$19 one way. Contact Super Shuttle at 817-329-3846 for reservations. Taxi fare from the airport to the Fairmont will cost approximately \$50 one way.

***SUBSTITUTION/CANCELLATION
POLICY***

Substitutions of meeting participants may be made at any time without penalty. All conference and tour cancellations must be in writing and must reach the HPS Office by January 6 to receive a refund. All refunds will be issued after the meeting minus a \$50 processing fee. Refunds will not be issued to no-shows.

FOR REGISTERED COMPANIONS

Registered spouses and companions can enjoy the benefit of a Hospitality Suite during the 2012 Midyear meeting. See the final program for exact room and times.

WELCOME RECEPTION

Sunday, February 5

6:00-7:30 PM Dallas Fairmont

EXHIBITOR RECEPTION

Monday, February 6

**5:15-6:15 PM Dallas Fairmont
Exhibit Hall A**

TECHNICAL TOURS

Tuesday, February 7

The University of Texas Southwestern Medical Center Waste Handling Facility

**3:30-5:30 PM Preregistration \$20/Onsite \$25
*Tour is limited to 30 participants; first come, first served.***

The University of Texas Southwestern Medical Center Waste Handling Facility is a self standing 7000+ sq. ft. site designed in 2005 to handle Radioactive, Chemical, Biological and Universal waste from a large Medical Research Institution. It integrates security control and access, with laboratory functions and the central receiving and processing of Radioactive Materials packages for the authorized laboratories. The facility handles short lived solid waste, compaction of long lived solid waste, refrigeration of radioactive animal carcasses, shredding of Liquid Scintillation mixed waste vials and storage of sealed sources. The facility also handles storage of chemical, biological and medical waste, bulking of chemical solvents, storage of mixed waste, lab-packing for chemical waste, refrigeration of chemical waste, and storage of universal waste.

PUB CRAWL

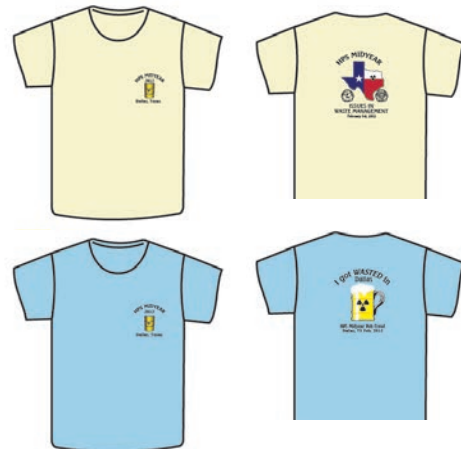
Tuesday, February 7

6:00-10:00 PM Preregistration \$20/Onsite \$25

Come join us for a tour down famous McKinney Ave., home of many entertaining and interesting drinking establishments. We will visit 4 local pubs, each with its own atmosphere and specials. We will spend about an hour at each place. All locations are along McKinney Ave. and are within walking distance of each other, and all locations are a trolley ride from the hotel. Participants will receive a light blue t-shirt and souvenir glass.

HPS SHIRTS

Pre-order your HPS polo or t-shirt! All shirts are available in gray, natural and light blue and cost \$22 for the polos (\$25 onsite), and \$12 for T-shirts (\$15 onsite). You can get an additional Bar Crawl t-shirt for \$12 (one shirt is included in your Pub Crawl registration; \$15 onsite). See the registration page to order.



REGISTRATION

Registration Hours

Sunday, February 5 3:30-6:30 PM
Monday, February 6 7:30 AM-3:00 PM
Tuesday, February 7 8:00 AM-3:00 PM
Wednesday, February 8 8:00 AM-Noon

Registration Information

- Preregistration Deadline: January 6, 2012
- Registration fees for members and non-members include the Welcome Reception and Exhibitor Reception
- Purchase orders are not accepted for PEP, AAHP or Tour Registration

Register now to reserve your place!

Register online at www.hps.org

OR:

Register by fax: Fax your completed form with credit card information to (703) 790-2672

OR BY MAIL:

Mail your completed form with payment to:
HPS Headquarters
1313 Dolley Madison Blvd., Suite 402
McLean, VA 22101

Mail completed registration form with check made payable to Health Physics Society, purchase order or credit card information. You are considered registered when full payment or purchase order has been received.

EXHIBITS

Exhibit Hours

Monday 5:15-6:15 PM Opening Reception
Tuesday 9:30 AM-5:00 PM
Tuesday Noon Lunch in Exhibit Hall
Wednesday 9:30 AM-Noon

2012 Meeting Exhibitors

(as of January 2012)

To request a booth for the Midyear Topical Meeting, contact Lori Strong at HPS Headquarters, (703) 790-1745, email: LStrong@BurkInc.com

Ameriphysics	Lab Logic Systems
Apantec Fuji	Landauer
Arrow Tech	Laurus Systems
Best Medical	Ludlum
Bionomics	Mazur Instruments
Bladewerx	Mirion
Canberra	MJW
Chase Environmental	ORAU
CHP Consultants	Ortec
Creative Electron	Perma-Fix
Dade Moeller	Philotechnics
Dycem	QAL-TEK
Eckert & Ziegler	Radiation Safety Assoc
Ecology Services	Radiation Solutions
ENERCON Services Inc	RSCS
Energy Solutions	RSO
F&J Specialty Products	Saphymo
Gamma Products	SE International
GEL Group	Technical Associates
G/O	Teletrix
GCR & Associates	Thermo Fisher
Hi-Q	Thomas Gray & Assoc
Hopewell Designs	Tidewater
JL Sheperd	US Army Health Care
K&S Lab	Recruiting
Lab Impex	Waste Control Specialists

Preliminary Technical Program

If a paper is going to be presented by other than the first author,
the presenter's name has an asterisk (*)

All Sessions will take place in the Dallas Fairmont

MONDAY

7:00-8:00 am

CEL 1 ABHP Exam Fundamentals

Gus Potter

**CEL 2 HPS Laboratory Accreditation Program
Introduction to Uncertainty Calculations Part 1**

Daniel VanDalsem

Eckert & Ziegler Isotope Products

8:15 am-Noon

MAM-A Plenary Session

Chair: Kathy Pryor

8:15 am

Welcome & Announcements

Kathy Pryor

President, HPS

8:30 am

MAM-A.1

Texas: The Path and Policy to Radioactive Waste Disposal

Jablonski S

Texas Commission on Environmental Quality

9:00 am

MAM-A.2

An Update on the Texas Compact Low-Level Radioactive Waste Disposal Facility

Baltzer R

Waste Control Specialists LLC

9:30 am

MAM-A.3

Radioactive Waste – Past, Present and Future Policies and Regulatory Issues

Magette T

EnergySolutions

10:00 am

Break

10:30 am

MAM-A.4

A Perspective on Waste and Fuel Cycle Issues in a Post Fukushima World

Magwood WD

US Nuclear Regulatory Commissioner

11:15 am

MAM-A.5

Radioactive Waste Management: Where Do We Go from Here?

Jacobi R

Jacobi Consulting

11:45 am

Roundtable Discussion

1:30-2:45 pm

MPM-A The Name of Our Society - Is It Finally Time to Consider Changing It?

Chair: Armin Ansari

2:30-3:45 pm

MPM-B Policies and Regulatory Issues

Co-Chairs: Paul Ward, Karen Langley

2:30 pm

MPM-B.1

Prevention of Unauthorized Disposal of Radioactive Material in Solid Waste and Scrap Recycling Facilities: Role of State Radiation Control Programs and Resources Available

McBurney R

Conference of Radiation Control Program Directors, Inc. (CRCPD)

2:45 pm

MPM-B.2

The Psychology of Radioactive Waste Disposal

Johnson R

Radiation Safety Counseling Institute and Dade Moeller

3:00 pm

MPM-B.3

Sealed Source Security and Commercial Disposition: Progress, Prospects, and the Path Ahead

Cuthbertson A, Cocina F, Jennison M, Martin D

National Nuclear Security Administration, Office of Global Threat Reduction, Los Alamos National Laboratory, National Nuclear Security Administration/Pacific Northwest National Laboratory, National Nuclear Security Administration/Energetics Incorporated

3:15 pm **MPM-B.4**
Technical and Policy Approaches to Managing Waste from Radiological Incidents

Peake RT, Schultheisz DJ, Czyscinski KS, Lemieux PM, Boe TR, Michael JF, Ierardi M, Parrish CS, Rodgers MM
US Environmental Protection Agency, Eastern Research Group

3:30 pm **MPM-B.5**
Health Physics Society Positions on Waste Disposal

Vetter RJ, Pryor KH
Health Physics Society, Pacific Northwest National Laboratory

3:45 pm **BREAK**

4:15-5:15 pm

MPM-C Radioactive Waste Past, Present and Future

Co-Chairs: Paul Ward, Karen Langley

4:15 pm **MPM-C.1**
Low Activity Waste: Navigating a Pathway for Disposal

Hamrick BL
University of California Irvine Medical Center

4:30 pm **MPM-C.2**
Health Effects from Exposure to Natural and Depleted Uranium

Keith LS, Wilbur S, Ingerman L, Faroon O, Scinicariello F, Roney N
ATSDR, SRC

4:45 pm **MPM-C.3**
Activities of the Southeast Compact Commission for Low-level Radioactive Waste Management

Lanza J
Florida Department of Health

5:00 pm **MPM-C.4**
The Source Collection and Threat Reduction Program: What It Is, Where It Is, Where It Will Be

Meyer R
Conference of Radiation Control Program Directors, Inc. (CRCPD)

5:15-6:15 pm **Exhibit Hall**

Exhibitor Opening Reception

Again this Year

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TUESDAY

7:00-8:00 am

CEL 3 The Psychology of Radioactive Waste Disposal

Ray Johnson

Radiation Safety Counseling Institute

CEL4 HPS Laboratory Accreditation Program Introduction to Uncertainty Calculations Part 2

James Tarzia

Radiation Safety & Control Services

8:30-9:45 am

TAM-A Academic, Medical and Nuclear Waste

Co-Chairs: Mike Davidson, Wayne Gaul

8:30 am TAM-A.1 Challenges in Managing College Radwaste Projects

Dibblee MGK, Kay MA

Ambry, Inc.

8:45 am TAM-A.2 Design and Relocation of a Research University's Low-Level Radioactive Waste Storage Facility

Tabor C, Zakir N, Spichiger G

Georgia Tech

9:00 am TAM-A.4 Thermal Characteristics and Radiotoxicity Analysis of the Advanced PWR Spent Fuels for Safe Storage Management Plan

Faruk MG, Pfeil AL, Aghara S, Vasudevan L*

Prairie View A&M University, Texas A&M University

9:15 am TAM-A.5 Nuclear Medicine Research and Development Waste Management

Quinn BM, Dauer LT

Memorial Sloan Kettering Cancer Center

9:30 am TAM-A.6 Unique Challenges and Lessons Learned from Management of Unconventional Waste at Old Universities

Inyang O, Nam S, Williams S

University of Houston

9:45 am BREAK

10:15 am-12:15 pm

TAM-B Environmental Issues

Co-Chairs: Wayne Gaul, Andrew Thatcher

10:15 am TAM-B.1 Decontamination Alternatives In Decommissioning Projects

Gaul W

Tidewater

10:30 am TAM-B.2 Savannah River Site Composite Analysis Monitoring Plan

Crapse KP, Phifer MA, Smith FG, Jannik GT, Milings MR*

Savannah River National Laboratory

10:45 am TAM-B.3 Implementation of Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP) in Environmental Monitoring Programs at a Low-Level Waste Facility

Matthews T, Kirk M, Zychowski G, Kirk S

WCS

11:00 am TAM-B.4 RACER: A Data Analysis Tool Used to Evaluate Potential Environmental Impacts at a New Low-Level Radioactive Waste Disposal Facility

Kirk S, Matthews T, Kirk M, Zychowski G

WCS

11:15 am TAM-B.5 Performance Assessment for Delaying Installation of an Infiltration Reducing Cover at the Low Level Radioactive Waste Site in Richland, Washington in Support of the Final Environmental Impact Statement

Rood AS, Thatcher AH

K-Spar Inc.

11:30 am TAM-B.6 Improving Radwaste Soil Estimates with Gamma Logs

Flynn CRF

Health Physics Consultants

11:45 am TAM-B.7 Updating a Deterministic Modeling Design from RESRAD to GoldSim: Examining a Highly Engineered Low-Level Waste Disposal Facility

Shaw C, Kirk S, Dornsife B

WCS

Noon TAM-B.8
**Discovery of Unexpected Waste Stream Radionuclide
of Concern**
Mason T
Cabrera Services, Inc.

1:15-3:15 pm

TPM-A WIPP-Special Session

1:15 pm TPM-A.1
**The Waste Isolation Pilot Plant-Update on Opera-
tional Performance and Exciting New Developments**
Hayes RB
WIPP

2:00 pm TPM-A.2
**Comparing Defense TRU Waste Disposal Costs at
WIPP with Class C Low-Level Waste Disposal Costs
at Waste Control Specialists**
Hayes RB
WIPP

2:15 pm TPM-A.3
**Use of Health Physics at the Waste Isolation Pilot
Plant (WIPP)**
Hayes RB
WIPP

3:00 TPM-A.3
**Use of a Portable HPGe for Counting Smears and Air
Filters**
Hayes RB
WIPP

3:15 pm BREAK

3:30-5:30 pm Meet in Lobby

**Technical Tour
Southwestern Medical Center**

2:15-5:30 pm

**TPM-B Radioactive Waste - Past, Present
and Future, Round Table**

2:15 pm TPM-B.1
The Last 30 Years of LLRW Disposal
McCormick J
Bionomics

**2:30 pm Roundtable Discussion:
Disposal Options**

3:15 pm BREAK

3:45 pm TPM-B.2
**A View From the Chair: Perspectives and Lessons
Learned from the Texas LLRWD Compact Commis-
sion**
Ford M
*Texas Low Level Radioactive Waste Disposal Compact
Commission*

**4:00 pm Roundtable Discussion:
Policies/Regulatory/Licensing**

WEDNESDAY

7:00-8:00 am

CEL 5 Environmental Risk Assessment

Andrew H. Thatcher

CEL6 Statistical Sampling and Analysis Approaches for Waste Disposal and Decommission Projects

Thomas L. Rucker, Dennis J. Beal

Science Applications International Corporation

8:45-9:45 am

WAM-A Low Level Waste, and Disposal of Exempt Sources

Co-Chairs: Karen Barcal, Bob Wills

9:00 am WAM-A.3

Status of the Texas Low Level Radioactive Waste Disposal Compact Commission

White JC

VA North Texas Health Care System

9:15 am WAM-A.4

A Comparative Analysis of Internal Monitoring Programs at a Low-Level Radioactive Waste Facility

Kraus J, Shaw C, LaBone T

Waste Control Specialists LLC, MJW Corporation

9:30 am WAM-A.5

Disposal of Smoke Detectors

Lolap GN, Lemon MR

University of Kansas

9:45 am BREAK

10:15 am-12:15 pm

WAM-B Contemporary Topics in Waste Management

Co-Chairs: Alex Lopez, Tom Hansen

10:15 am WAM-B.1
Communication Strategies for Radiation Professionals

Selig E, Glass A

Center for Responsible Environmental Strategies

10:30 am WAM-B.2
Feasibility of Clearance Concept for Daily Release of Small Amount of Solid Materials from Radiation Controlled Area

Ogino H, Hattori T

Central Research Institute of Electric Power Industry

10:45 am WAM-B.3
Characterization, Removal, and Disposal of the University of Iowa MC17 Cyclotron

Hansen T

Ameriphysics, LLC

11:00 am WAM-B.4
Estimation of Waste Volumes from Radiological Incidents

Boe TR, Lemieux PM, Rodgers MM, Peake RT, Schulteisz DJ, Ierardi M, Parrish CS

US Environmental Protection Agency, Eastern Research Group

11:15 am WAM-B.5
Reduce Reuse Recycle, Electronic Waste Reduction

Gunter R

CHP Consultants

11:30 am WAM-B.6
Transportation Challenges and the Security of Disused Sealed Sources: Progress and Prospects for Type-B Package Certification

Taplin T, Cuthbertson A, Martin D

National Nuclear Security Administration/MELE Associates, National Nuclear Security Administration/Office of Global Threat Reduction, National Nuclear Security Administration/Energetics Incorporated

11:45 am **WAM-B.7**
Beta Dose Calibration of Thin Contact Colorimetric Dosimeters

Abegaz S, Brodsky A
Georgetown University

12:00 pm **WAM-B.8**
Application of Soil Segregation Technology to Accurately Assay Concrete Material as a Means to Minimize Offsite Waste

Lopez AU, Lively JW
AMEC Environment and Infrastructure

12:15 pm **Meeting Adjourned**

AAHP1 Radiation Safety's "Other Duties As Assigned"

Robert Emery, Janet Gutierrez; The University of Texas Health Science Center at Houston

Radiation safety is but one of a series of specialties that exist under the larger category of "loss prevention and control measures" intended to protect an organization's people, property and environment. Other specialties can include risk management & insurance, security, fire safety, occupational safety, chemical safety, biological safety, and hazardous waste management. In our current period of constrained economic resources, many radiation safety professionals are being asked to participate in, or assume, other safety-related duties, but often without specific training. This day long course will describe the necessary essentials of a set of safety and loss control specialties from a radiation safety perspective, equipping participants with the ability to address a variety of basic issues within the larger universe of safety-related concerns. The essential references for each specialty area will also be discussed. The course will culminate in a discussion about key loss control measures and metrics and the effective presentation of such data.

AAHP2 Medical Physics for Non-Medical Physicists

Andy Miller, Dave Burkett; Vanderbilt University, VA National Health Physics Program

NCRP 160 estimates that 48% of the exposure for an average person comes from Medical Exposure of Patients. Specifically, the modalities that were noted were computed tomography (CT), conventional radiography and fluoroscopy, interventional fluoroscopy, nuclear medicine, and external-beam radiotherapy. Are you ever approached with questions like, "I am supposed to receive a nuclear medicine scan for my heart. How much radiation will I receive?" or "I saw in the newspaper that CT scans will make your hair fall out. Is this true?". This course is designed to provide basic information to better answer these questions.

This course is designed to be a broad survey covering the types of equipment, nuclides, and doses, from radiation producing machines and radioactive materials used to diagnose and treat disease. Pertinent regulatory issues will be covered as part of each topic area and current issues will be discussed.

Nuclear medicine topics to be discussed include the production, preparation and delivery of radiopharmaceuticals to the point of care of the patient. SPECT and PET/CT and diagnostic tests including typical isotopes, amounts, radiation doses and images will be covered. Therapeutic administration of radiopharmaceuticals on an outpatient and inpatient basis and issues in nuclear medicine such as shielding, patient release, pregnancy, and medical events (diagnostic and therapeutic) will be discussed.

Machine sources of radiation will be covered. Starting with a review of x-ray production, conventional and digital radiography, portable and fixed x-ray units, mammography, CT, fluoroscopy, doses to staff, accreditation, sentinel events, Image Gently and dose reduction efforts will be presented.

Finally issues in Radiation Oncology will be covered. Fundamentals of linear accelerators, IMRT, and proton therapy will be covered. High dose rate and low dose rate therapies with radioactive materials will be discussed including the use of temporary and permanent implants. We will close with issues in radiation oncology such as shielding, patient release, and medical events.

This course will provide a broad overview only and is not designed to be focused in depth on any particular topic. It is being targeted for those HPs who in non-medical environment who want to gather basic information and reference materials that may be beneficial in explaining the estimated largest source of exposure for the average US citizen.

Professional Enrichment Program

Sunday, February 5, 2012 - Dallas Fairmont

Again This Year...Again This Year

The Professional Enrichment Program (PEP) handouts for the Midyear Meeting will not be available in hard copy. For those who pre-register, you will be provided with an access code for downloading the handouts approximately two weeks prior to the meeting. For those who register for courses on-site, you will be provided the code when you register.

Sunday, 8:00 - 10:00 am

PEP 1A EH&S “Boot Camp” for Radiation Safety Professionals: 2011, Part 1

Robert Emery, Janet Gutierrez

The University of Texas Health Science Center at Houston, The University of Texas School of Public Health,

It is currently quite rare for organizations to maintain stand-alone radiation safety programs. Resource constraints and workplace complexities have served as a catalyst for the creation of comprehensive environmental health & safety (EH&S) or risk management (RM) programs, which include, among other health and safety aspects, radiation safety programs. But many of these consolidations were not inclusive of staff training to instill an understanding of the areas now aligned with the radiation safety function. This situation is unfortunate because when armed with a basic understanding of the other safety programs, the radiation safety staff can provide improved customer service and address many simple issues before they become major problems. This unique Professional Enrichment Program (PEP) series is designed to address this shortcoming by providing an overview of a number of key aspects of EH&S and RM programs from the perspective of practicing radiation safety professionals who now are involved in a broader set of health and safety issues. The PEP series will consist of two 2 hour segments:

Part 1 will address “The Basics of Fire & Life Safety” and “The Basics of Biological and Chemical Safety.” Included in the fire & life safety segment will be a discussion on the basic elements of the life safety code and the fire detection and suppression systems. The requirements for means of egress will also be discussed. The second part of the session will address the classification of infectious agents and the various assigned biosafety levels. Aspects of chemical exposures, exposure limits, monitoring and control strategies will also be discussed.

Each PEP segment is designed so that participants can take any session individually, although the maximum educational benefit will be derived from the participation in both sessions. The particular topics included in the PEP series have been consistently identified as extraordinarily useful to participants in the highly successful week-long “University of Texas EH&S Academy.” Ample time will be allotted for questions, answers and discussion, and each segment will be supplemented with key reference information.

PEP 1B HPS Laboratory Accreditation Program Overview

Jeffrey Guenther

HPS Laboratory Accreditation Policy Committee

The objective of this professional enrichment program topic is to provide an overview of the HPS Laboratory Accreditation Program and a framework around which the participant can help laboratories being assessed to improve through the process of technical assessment. Technical assessing requires that an assessor know what is important in the health physics field and where to help the laboratory being assessed focus resources for optimization of their process. This course will review the history, the current and possible future scope, and the intent of the HPS Laboratory Accreditation Program. Advantages of accreditation will be provided. A review of the HPS Laboratory Accreditation Manual will be presented. This course is intended for laboratories interested in achieving accreditation, for individuals interested in enhancing the quality programs of their organization, and as the first training phase for anyone planning to become assessors.

PEP 1C Navigating Through Hazardous Material Classification – A Primer of DOT and EPA Regulations

*Robert M. Wester, Joseph D. Koch
R.M. Wester and Associates, Inc.*

Classifying hazardous materials and hazardous wastes can be confusing, frustrating and very trying on one's patience. Trying to identify these materials to meet different criteria for two Federal Regulatory Agencies, each with different objectives, is difficult at best. But, depending on the state, they too may have their own regulatory agencies overseeing storage, disposal, and transportation, making the process downright excruciating. This presentation will give the participants a brief overview of DOT and EPA regulations concerning the identification and classification of hazardous materials and wastes. (49 CFR 171 -173, 40 CFR 260, 261). We will learn that classifying by one set of regulations may not satisfy the requirements of the second set, and if you get those regulations correct, then what about the various state regulations that your materials will travel through?

We will provide several workbook examples and comparisons of classifying hazardous materials and wastes, which will allow the participants to demonstrate their new found knowledge. We will also give a current example of how one state is addressing waste identification and proposed mandatory labeling, perhaps to an extreme new level. Any guess as to which state this may be?

Sunday, 10:30 am-12:30 pm

PEP 2A EH&S “Boot Camp” for Radiation Safety Professionals: 2011, Part 2

Robert Emery, Janet Gutierrez

The University of Texas Health Science Center at Houston, The University of Texas School of Public Health,

Part 2 will focus on “Measuring and Displaying Radiation Protection Program Metrics That Matter to Management.” Radiation protection programs typically accumulate data and documentation so that regulatory officials can assess compliance with established regulations. The implicit logic associated with this activity is that compliance equates to safety. But in this era of constricted resources, mere regulatory compliance is no longer sufficient to justify all necessary programmatic resources. Radiation protection programs are now expected to readily demonstrate how they add tangible value to the core missions of an organization. The demonstration of this value is expected to be in the form of some sort of performance metrics, but this is an area in which many radiation safety professionals have not been trained. The

issue is further compounded by the need to display the metrics in manners that are succinct and compelling, yet another area where formal training is often lacking. This session will first describe a variety of possible radiation protection program performance measures and metrics, and then will focus on the display of the information in ways that clearly convey the intended message. Actual before and after data display “make-overs” will be presented, and ample time will be provided for questions, answers, and discussion.

PEP 2B HPS Laboratory Accreditation Program Assessor Training

Tom Voss

HPS Laboratory Accreditation Assessment Committee

The objective of this professional enrichment program topic is to familiarize HPS Laboratory Accreditation Program assessors and others with the requirements of the assessment program. The training will describe the program documentation, incorporated elements of ISO/IEC 17025, the accreditation process, and will specifically address technical requirements for radiation instrument calibration and radioactive source manufacturing/calibration laboratories. The training is required for all members of the HPS Laboratory Accreditation Assessment Committee and is recommended for laboratories and others interested in accreditation. The HPS Laboratory Accreditation Program Overview and Introduction to Uncertainty Calculations presentations should also be attended. The HPS program is similar to other ISO/IEC 17025 based accreditation programs and the training will be useful for anyone interested in the accreditation process.

PEP 2C Fundamentals of Gamma Spectroscopy – Part I

Doug Van Cleef

ORTEC/Advanced Measurement Technology, Inc.

This course offers a fast-paced review of the basic principles of gamma spectroscopic analysis. The course includes a review of the nature and origins of gamma-emitting radioactivity, basic physics of gamma interaction with matter, consequences of gamma interactions on gamma spectra, gamma spectroscopy system components and calibrations, gamma spectroscopy analysis methods, and interpretation of gamma spectroscopy data.

Objective: Upon completion of this course, student will have a working knowledge of radioactive decay schemes, radiation emissions, gamma radiation detection, and the principles of the laboratory gamma spectroscopy process.

Sunday, 2:00-4:00 pm

PEP 3B Medical Health Physics Refresher

Michael A. Charlton

Risk Management & Safety, The University of Texas Health Science Center at San Antonio

The dynamic medical health physics setting mandates continual review of current practices. The medical health physics environment has drastically changed over the recent past with new applications, new imaging modalities, and a new regulatory structure. This continual evolution makes it challenging for the practicing medical health physicist to remain abreast of current issues. This continuing education session will review recent regulatory changes, highlight commonly observed radiation-producing device deficiencies, operator doses from portable x-ray imaging, CT imaging dose considerations, and discuss recent medical irradiator security issues. Ideas for improving medical health physics programs focusing on training, example shielding calculations, medical health physics safety surveys, and commonly observed medical health physics issues are provided. Attendees will have the opportunity to ask medical health physics questions and exchange key successes that worked in their environment with the speaker.

Medical Health Physics Refresher:

1. The University of Texas Health Science Center at San Antonio maintains the only medical health physics graduate program in Texas. This novel program emphasizes the tangible relationship between physicians, medical physicists, and health physicist in the conduct of medicine.

2. This refresher course was developed through lectures given to assist health physics students and radiology residents prepare for national board examinations.

3. Dr. Charlton was awarded the 2006 Teacher of the Year Award in UTHSCSA Radiology and the first non-clinician to receive the award in more than a decade.

PEP 3C Fundamentals of Gamma Spectroscopy – Part II

Doug Van Cleef

ORTEC/Advanced Measurement Technology, Inc.

See PEP 2C for description.

Continuing Education Lectures

CELs take place in the Fairmont Dallas

Monday, February 6

7:00-8:00 am

CEL1 ABHP Exam Fundamentals

Gus Potter

The process for achieving ABHP certification – beginning with the application submission through the completion of the examination to certification – will be presented. Tips for navigating certification throughout the process will be discussed. Topics will include qualifications and the application process, preparation of both exam parts, and keys to good performance. The material presented consolidates pertinent exam policy/procedure into an easily digestible format, offering real world examples of good and poor responses. Persons who are already certified may gain insight into the process and identify areas where they would be willing to assist in certification process. The presenters are current members of the ABHP board.

CEL2 HPS Laboratory Accreditation Program Introduction to Uncertainty Calculations Part 1

Daniel VanDalsem

Eckert & Ziegler Isotope Products

The objective of this continuing education lecture is to familiarize HPS Laboratory Accreditation Program assessors and others with the requirements of the assessment program as they relate to radioactive source manufacturers/calibration laboratories. Because of the importance of uncertainty calculations in Laboratory Accreditation this course will concentrate on the corresponding technical issues involving laboratory quality assurance, the estimation of uncertainty, and limits of detection. An important element in the activities of health physicists who are responsible for the safety of personnel and the general public is the measurement of radiation from various sources, including reactors, radiation-generating machines and radioactive sources used in industry and in the medical diagnosis and treatment of patients. To be meaningful, these measurements must be performed using radioactive sources that are traceable to a national standards laboratory (e.g., NIST). Radioactive source manufacturers/calibration laboratories are accredited by the HPS LAP in accordance with the HPS Laboratory Accreditation Manual, ANSI/ISO/IEC 17025-2005 “General requirements for the competence of testing and calibration laboratories,” and ANSI 42.22-1995 “Traceability of Radioactive Sources to the National Institute of Standards and Technology (NIST) and Associated Instrument Quality Control.”

Tuesday, February 7

7:00-8:00 am

CEL3 The Psychology of Radioactive Waste Disposal

Ray Johnson

Radiation Safety Counseling Institute

Which is the greatest challenge for radioactive waste disposal: technical issues or people issues? While this HPS conference is mainly about technical issues; social issues, politics, and public perceptions of risks may pose the greatest challenges. Viable technical solutions to radioactive waste disposal have been available for many decades and yet the public seems to believe that we do not know what to do with such wastes. Public and political views often say the technical solutions for radioactive waste are not acceptable. Since acceptability seems to be more about risk perceptions than technology, perhaps we could benefit from better understanding of social issues. Health physicists have long been perplexed by the nature of public risk perceptions. Studies over that past two decades have begun to show how our minds work to protect us from perceived risks. Our subconscious minds create fear as a natural function for our protection. For survival we have learned to respond automatically to fears without conscious judgment. However, since radiation fears are based on imagined unacceptable consequences of exposure, they are not a true fear such as we might experience upon direct attack by an animal. Fears of radiation pervade all discussions of waste disposal like the invisible elephant in the room. Since radiation fears are from our subconscious, appeals to the conscious mind for rational decisions may not change a fearful person's feelings. The fearful imagination of the subconscious mind will win over rational intellect every time. Persons with subconscious fears will also distrust appeals for rational logical analysis by technical experts. Such persons will seek confirmation for their fears and discount anything which seems contrary to their beliefs. People's views of radiation risks will not change without a change in their subconscious minds. Marketers and psychologists know how to address the subconscious mind and their strategies will be reviewed.

CEL4 HPS Laboratory Accreditation Program Introduction to Uncertainty Calculations Part 2

James Tarzia

Radiation Safety & Control Services

The objective of this continuing education lecture is to familiarize HPS Laboratory Accreditation Program

assessors and others with the requirements of the assessment program as they relate to radiation instrument calibration laboratories. Because of the importance of uncertainty calculations in Laboratory Accreditation this course will concentrate on the corresponding technical issues involving laboratory quality assurance, the estimation of uncertainty, and limits of detection. An important element in the activities of health physicists who are responsible for the safety of personnel and the general public is the measurement of radiation from various sources, including reactors, radiation-generating machines and radioactive sources used in industry and in the medical diagnosis and treatment of patients. To be meaningful, these measurements must be performed using radiation instruments whose calibrations are traceable to a national standards laboratory (e.g., NIST). Radiation instrument calibration laboratories are accredited by the HPS LAP in accordance with the HPS Laboratory Accreditation Manual and ANSI/ISO/IEC 17025-2005 "General requirements for the competence of testing and calibration laboratories."

Wednesday, February 8 7:00-8:00 am

CEL5 Environmental Risk Assessment

Andrew H. Thatcher

A common theme in evaluating contaminated sites regardless of the origin or type of radioactive contamination is a risk assessment developed to fully evaluate the potential impact of the contamination to surrounding environs and future residents. In order to accomplish this objective in a two hour window we'll walk through the environmental transport and pathway analysis for a low level radioactive waste facility and address the topics related to fully completing the analysis from start to finish. Topics will include:

- * Site characterization and evaluation
- * Development of scenarios to include solicitation of input from interested parties and applicable regulatory drivers
- * Selection of environmental pathways for evaluation based upon the exposure scenarios and the location.
- * Selection of input parameters and obtaining site specific data where needed.
- * Performing sensitivity analysis and evaluating uncertainty for complex sites
- * Validation of the model used with actual data where possible
- * Presentation of results on a deterministic or probabilistic basis.

This basic model for risk assessment has been applied by the presenter to a number of contaminated sites over the years. This course is for participants interested in obtaining a greater background and details on performance assessments and the legwork involved in various aspects of the process.

CEL6 Statistical Sampling and Analysis Approaches for Waste Disposal and Decommission Projects

Thomas L. Rucker, Dennis J. Beal

Science Applications International Corporation

It has been said that you can prove anything with statistics. However, the "proof is in the pudding" and valid proofs depend on valid application of statistical principles and assumptions. The use of MARSSIM (Multi-Agency Radiation Survey and Site Investigation Manual) guidance and its supplement MARSAME (Multi-Agency Radiation Survey and Assessment of Material and Equipment Manual) have provided a statistical framework for sampling and analysis of characterization data for both site decommissioning and waste management projects based on a standard data life cycle and on meeting developed data quality objectives. However, statistical assumptions are often not verified to be applicable to the material in question. Furthermore, misunderstanding of how to apply statistical principles and methods to radiological data can lead to erroneous conclusions. Some examples of misapplication of statistics includes poor assumptions relative to the grouping of material into homogenous populations for statistical sampling based on poor or missing historical process knowledge or scoping data; poor or unverified assumptions relative to the relationship between surface and volumetric contamination; poor assumptions relative to population distribution shapes; and, improper application of statistical methods for "undetected" versus "detected" data. Some available statistical packages lend themselves to misapplication in these ways, especially for the unwary and uninitiated. Examples from some actual site decommissioning and waste management projects using various statistical methods and available statistical software packages will demonstrate the misapplication and proper application of statistical principles.

Health Physics Society Midyear Topical Meeting – Registration Form
5-8 February 2012, Dallas, Texas

CHP? Yes No
 NRRPT? Yes No

Name for badge: (Last) _____ (First) _____ (Nickname) _____
 Affiliation (for badge)(limit to 18 characters and spaces): _____
 Address : _____ HPS Member #: _____
 City: _____ State: _____ Zip/Postal Code: _____
 Business Phone: _____ FAX: _____ E-mail: _____
 If Registering - Companion Name: _____

Preregistration Deadline: January 6

REGISTRATION FEES: (Mark Appropriate Boxes)	Preregistration	On-Site Fees
<input type="checkbox"/> HPS Member (Receptions, Exhibitor Lunch, Proceedings)	\$430.00	\$25.00
<input type="checkbox"/> Non-Member* (Receptions, Exhibitor Lunch, Proceedings)	\$535.00	\$635.00
<input type="checkbox"/> HPS Member (Receptions, Exhibitor Lunch, Proceedings) + Annual Dues	\$580.00	\$680.00
<input type="checkbox"/> Emeritus Member (Receptions, Exhibitor Lunch, Proceedings)	\$215.00	\$215.00
<input type="checkbox"/> One Day <input type="checkbox"/> Mon <input type="checkbox"/> Tues <input type="checkbox"/> Wed	\$275.00	\$275.00
<input type="checkbox"/> Student (Receptions and Proceedings)	\$ 70.00	\$ 70.00
<input type="checkbox"/> Companion (Receptions, Hospitality Room)	\$ 70.00	\$ 70.00
<input type="checkbox"/> Emeritus Companion (Receptions, Hospitality Room)	\$ 35.00	\$ 35.00
<input type="checkbox"/> Exhibits Only	\$ 40.00	\$ 40.00

*Includes HPS Associate Membership for year 2012 - First Time Members Only

TECHNICAL TOURS:

Southwestern Medical Ctr (Tues 3:30-5:30 pm, 2/7) # of Tickets ____ X \$20 # of Tickets ____ X \$25 _____

PUB CRAWL:

McKinney Street Pub Crawl (Tues 6-10 pm, 2/7) # of Tickets ____ X \$20 # of Tickets ____ X \$25 _____
 T-Shirt size __ Small __ Medium __ Large __ X-Large

T-SHIRTS:

HPS Polo # of Shirts ____ X \$22 # of Shirts ____ X \$25 _____
 Polo size __ Small __ Medium __ Large __ X-Large; __ Gray __ Natural __ Light Blue
 HPS T-Shirt # of Shirts ____ X \$12 # of Shirts ____ X \$15 _____
 Shirt size __ Small __ Medium __ Large __ X-Large; __ Gray __ Natural __ Light Blue

AAHP COURSES (Saturday, February 4):

Course 1 – Radiation Safety’s “Other Duties As Assigned” (R Emery, J Gutierrez) \$275.00
 Course 2 – Medical Physics for Non-Medical Physicists (A Miller, D Burkett) \$275.00

PEP COURSES (Sunday, February 5) -

8:00–10:00 AM (3 concurrent courses)

1-A EH&S “Boot Camp” for Radiation Safety Professionals: 2011, Part 1 (R Emery, J Gutierrez)
 1-B HPS Laboratory Accreditation Program Overview (J Guenther)
 1-C Navigating through Hazardous Material Classification ... (RM Wester, JD Koch)

10:30 AM–12:30 PM

2-A EH&S “Boot Camp” for Radiation Safety Professionals: 2011, Part 2 (R Emery, J Gutierrez)
 2-B HPS Laboratory Accreditation Program Assessor Training (T Voss)
 2-C Fundamentals of Gamma Spectroscopy - Part 1 (D Van Cleef)

2:00–4:00 PM

3-B Medical Health Physics Refresher (MA Charlton)
 3-C Fundamentals of Gamma Spectroscopy - Part 2 (D Van Cleef)

8:00-10:00 AM ____/____ = \$90.00 1st 2nd <input type="checkbox"/> Yes, stand by
10:30 AM-12:30 PM ____/____ = \$90.00 1st 2nd <input type="checkbox"/> Yes, stand by
2:00-4:00 PM ____/____ = \$90.00 1st 2nd <input type="checkbox"/> Yes, stand by

PAYMENT INFORMATION—Purchase Orders NOT Accepted for AAHP/PEP or Tour Registration

If paying by check, make payable and mail to:
 Health Physics Society, 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101

Federal TAX ID
 #04-6050367

VISA MasterCard American Express
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 Cardholder Name: _____
 Signature: _____
 Cardholder Address: _____

If you are sending this by FAX, (703) 790-2672,
PLEASE do not mail the original

Registration Section Total	\$ _____
Technical Tour Total	\$ _____
AAHP & PEP Section Total	\$ _____
TOTAL FEES	\$ _____