



Health Physics Society

Internal Dosimetry Workshop

February 6-9 2023 • Oregon State University

Conference Program



Health Physics Society

INTERNAL DOSIMETRY WORKSHOP

February 6-9 2023 • Oregon State University

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Continuing Education Credits

An application for MPCEC credits has been submitted to CAMPEP for up to 18.25 credit hours associated with this program.

Individuals can obtain CHP continuing education credits by applying on the AAHP website. There are no preapproval codes for this meeting. A maximum of 40 credits can be given for attending the meeting.

On Site Locations

Speaker Ready Room

Room 207, 2nd Floor

All Monday – Thursday Sessions

Room 49, Mezzanine Level

SOCIAL EVENTS

Sunday, February 5

Bingo, Dinner, and Drinks at Common Fields

Bingo 3:00 – 5:00 PM; Dinner and Drinks 5:00 – 8:00 PM

Meet up at Common Fields for a casual meet and greet! Common Fields is mostly outdoors but has plenty of heaters to keep you warm! Bingo will be from 3-5 pm followed by game night 5-8 pm. So show up and play some bingo while enjoying drinks and grab some tasty snacks or even stay for dinner and enjoy food from a variety of food trucks! (22 minute walk, 5 minute drive from Memorial Union)

Monday, February 6

Mentorship Committee Lunch Activity

12:15 – 1:15 PM, Room 215 Memorial Union

All registrants of the HPS Workshop 2023 are invited to join us during the lunch hour at Oregon State University for a collaborative networking event! Meet colleagues and sharpen your internal dosimetry skills in a small group session hosted by the Mentorship Committee. Teams will compete to solve challenge questions* in a casual setting over lunch (lunch provided). This networking mixer is designed to connect individuals of all career stages, from student through retiree.

*Challenge questions were prepared by Deepesh Poudel and Thomas Johnson

Dinner and Drinks at Sky High Brewing:

6:00 PM

Enjoy dinner and drinks and a rooftop bar at Sky High Brewing. If you don't want to eat here, meet up with the crew after dinner! (23 minute walk, 5 minute drive from Memorial Union)

Tuesday, February 7

Mentorship Committee Lunch Activity

12:15 – 1:15 PM, Room 215 Memorial Union

Bar Crawl

Starts at 6:00 PM

Join us for a bar crawl through Downtown Corvallis and experience some of the popular food and drink spots. There will be six stops total shown in order on the map here. All bars are walking distance from the conference center Memorial Union. Make sure to take a picture of you and your group doing something crazy/funny at each spot or ask the bartenders for the signature drink at each location. Each stop you make it to and document with picture evidence will be an entry for a prize!

SOCIAL EVENTS

Wednesday, February 8

Professional Headshot Photo Booth, sponsored by the Early Career Professionals HPS Section

11:15 – 1:15 PM, Room 215 Memorial Union

Brought to you by the HPS Early Career Professionals HPS Section, join us for a free professional headshot photo booth! This event is a first come, first serve event that will be open for two hours. Individuals will be emailed their headshots a couple weeks after the end of the meeting. Minimal touch ups will be done, and individuals can pay for additional touch ups afterwards. Participation is free to all who register for the conference.

Dinner and Drinks at McMenamins on Monroe

6:00 PM

Enjoy dinner and drinks at McMenamins on Monroe. If you don't want to eat here, meet up with the crew after dinner! There are two McMenamins locations, make sure to go to the one on Monroe, not the downtown pub! (8 minute walk, 3 minute drive from Memorial Union)

Thursday, February 9

Reactor Tour

1:30 PM

After the end of the conference, join us for a free tour of the Oregon State TRIGA Reactor. A sign up sheet will be at the registration desk all week. The tour will be approximately 45 minutes. Sign ups will end on Wednesday 2/8/22 at 4 pm. There is a current cap of 10 registrants. The tour policy requirements include:

- Adult tour guests must show their government-issued photo ID (not a picture or photocopy) and check in at the front desk prior to the tour.
- Long pants & closed-toe shoes are required in the Reactor Bay & other radiation labs.
- No bags, backpacks, cell phones, or cameras are allowed on the tour.
- No weapons of any kind, including concealed carry, are permitted in the reactor building.
- All visitors must remain with an authorized tour guide or escort at all times.
- Any minor participants (excluding enrolled OSU students) must be under the direct supervision of a parent at all times.

SCIENTIFIC PROGRAM

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

MONDAY

8:00 AM – 10:15 AM

MAM-A

Basics of Internal Dosimetry

Chairs: Deepesh Poudel, Cheryl Antonio

Room 49, Mezzanine Level

8:00 am

MAM-A.1

Internal Dosimetry Program - Considerations and Challenges

C Potter

Sandia National Laboratories

8:30 am

MAM-A.2

Criteria for Individual Monitoring and Selection of Monitoring Method: A Case Study

Majid H Khalaf

8:45 am

MAM-A.3

Internal Dosimetry Intercomparison Program (DICE)

Cheryl Antonio, Brett L Rosenberg

HMIS, Sandia National Laboratories

9:00 am

MAM-A.4

Where Did This Come From? Lessons Learned from High-Routine Bioassay Investigations

Cheryl Antonio, Eugene H Carbaugh

HMIS, Retired

9:15 am

MAM-A.5

Internal Dose Calculations for Nuclear Medicine Applications

M Stabin

9:30 am

MAM-A.6

A Dosimetrist's Role in Emergency Response

Brett L Rosenberg

Sandia National Laboratories

9:45 am

MAM-A.7

Low-Level Detections – Statistics and Consequences

Brett L Rosenberg

Sandia National Laboratories

10:00 am

MAM-A.8

A Brief Introduction to Biokinetic Model Development

Caleigh Samuels, Rich Leggett

ORNL Center for Radiation Protection Knowledge

10:45 AM – 12:15 PM

MAM-B

Environmental Internal Dosimetry

Chair: Amber Harshman

Room 49, Mezzanine Level

10:45 am

MAM-B.1

Internal Dosimetry Concepts with Applications to Environmental Radiation Protection

Donovan A Anderson, Amber M Harshman

Institute of Radiation Emergency Medicine, Hiroasaki University, Environmental Protection Services Division, Oak Ridge National Laboratory

1:15 PM – 5:00 PM

MPM-A

Calculation and Use of Internal Dose Coefficients

Chairs: Derek Jokisch, Caleigh Samuels

Room 49, Mezzanine Level

1:15 pm

MPM-A.1

Computational Internal Dosimetry 101

Nicole E Martinez, Caleigh Samuels, Derek Jokisch, Richard Leggett

Clemson University, Oak Ridge National Laboratory, Francis Marion University

1:50 pm

MPM-A.2

Biokinetic Modeling and a New Systemic Model for Radon

Caleigh Samuels

2:25 pm

MPM-A.3

Using Specific Absorbed Fraction to Compute Dose Coefficients

Derek Jokisch

3:15 pm

MPM-A.5

We Have Dose Coefficients. Now What?

Philip Fulmer

3:50 pm

MPM-A.6

The Calculation and Application of Risk Coefficients

David Stuenkel

U.S. EPA

MONDAY

4:25 pm

MPM-A.7

Introducing DEPDOSE, a Tool to Calculate Dose Coefficients to Members of the Public for Radioactive Aerosols

John A Klumpp, Luiz Bertelli, Matthew Nelson, Mike Brown, Liam Wedell, Keith Eckerman

Los Alamos National Laboratory

TUESDAY

8:00 AM – 12:00 PM

TAM-A

U.S. Transuranium and Uranium Registries Research

Chair: Sergei Tolmachev

Room 49, Mezzanine Level

8:00 am

TAM-A.1

55 Years of the United States Transuranium and Uranium Registries: History, Contributions, and Impact on Radiation Protection

Sergei Y Tolmachev

US Transuranium and Uranium Registries, Washington State University

8:25 am

TAM-A.2

Unique Resources Available through Collaboration with the USTUR

Nicole E Martinez

Clemson University, Oak Ridge National Laboratory

8:50 am

TAM-A.3

Applicability of a Unique USTUR Dataset: Female Nuclear Worker Treated with Chelation Therapy after Plutonium Exposure via Inhalation

Sara Dumit, Maia Avtandilashvili, Stacey McComish, Sergei Y Tolmachev

Los Alamos National Laboratory, Washington State University, U.S. Transuranium and Uranium Registries

9:15 am

TAM-A.4

Uncertainty in plutonium internal dose estimates for Rocky Flats workers

Martin Šefl, Joey Y Zhou, Maia Avtandilashvili, Sergei Y Tolmachev

Washington State University, U.S. Transuranium and Uranium Registries, U.S. Department of Energy

9:55 am

TAM-A.6

Taurus Advanced – Internal Dosimetry Software for Research

Anthony E Riddell, Tracy J Smith, Demetrio Gregoratto, Thomas Hyatt

UKHSA

10:20 am

TAM-A.7

ICP-MS Measurement of Plutonium, Uranium, and Americium in the hair and nail samples of former nuclear workers

*Arbova, Tolmachev, Brockman**

University of Missouri, Washington State University, USTUR

10:45 am

TAM-A.8

Hematology Profile of a Radium Dial Painter Cohort

Ronald E Goans, Richard E Toohey, Carol J Iddins, Mike Mumma, Stacey L McComish, Sergei Tolmachev

MJW Corporation, REAC/TS, International Epidemiology Institute, USTUR

11:10 am

TAM-A.9

Is the autopsy report a “gold standard”?

Xirui Liu, Stacey L McComish, Joey Y Zhou, Sergei Y Tolmachev*

USTUR, DOE

11:35 am

TAM-A.10

USTUR - A Golden Nugget Among DOE Resources

John D Boice, Lawrence T Dauer

NCRP, Vanderbilt University, Memorial Sloan Kettering Cancer Center

TUESDAY

1:00 PM – 5:00 PM

TPM-A
**Principles of Medical Internal
Dosimetry in Clinical Practice**

Chair: Darrell Fisher
Room 49, Mezzanine Level

1:00 pm **TPM-A.1**

**Medical Internal Radiation Dosimetry: Introduction and
Overview**

M Liverett
Versant Medical Physics and Radiation Safety

1:20 pm **TPM-A.2**

**Current Radiopharmaceuticals of Interest in Nuclear
Medicine**

W Irwin
University of Texas M.D. Anderson Cancer Center

1:50 pm **TPM-A.3**

**Fundamental Principles of Internal Dosimetry for Health
Physics Professionals**

D Fisher
Versant Medical Physics and Radiation Safety

2:30 pm **TPM-A.4**

Scientific Advances in Nuclear Medicine Imaging

William Erwin
University of Texas M.D. Anderson Cancer Center

3:15 pm **TPM-A.6**

Quantitative measurement quality assurance

Misty Liverett

3:45 pm **TPM-A.7**

Interpreting Time-activity Data

Darrell R Fisher

3:55 pm **TPM-A.8**

Software Tools for Calculating Internal Radiation Dose

Darrell R Fisher

4:20 pm **TPM-A.9**

Roles and Responsibilities

William Erwin

WEDNESDAY

8:00 AM – 9:30 AM

CANCELLED

WAM-A
Internal Dose in Nuclear Medicine Therapy

Chair: Michael Stabin
Room 49, Mezzanine Level

8:00 am **WAM-A.1**

Standardized Radiopharmaceutical Dosimetry Methods:

Michael Stabin

8:30 am **WAM-A.2**

Clinical Applications of Radiopharmaceuticals in Therapy

G Flux

9:00 am **WAM-A.3**

**Relating Radiation Doses to Biological Effects in
Radiopharmaceutical Therapy**

L-Strigari

10:00 AM – 11:15 AM

WAM-B
Current Research in Internal Dosimetry

Chair: Emmanuel Mate-Kole
Room 49, Mezzanine Level

10:00 am **WAM-B.1**

**Methodology for Deriving Dose Coefficients for Ingestion
and Inhalation of Radioactive Particles Resulting Fallout
from a Nuclear Detonation**

*Dunstana R Melo, Luiz Bertelli, Shawki I Ibrahim, Lynn R
Anspaugh, Andre Bouville, Steve L Simon*
*Melohill Technology Inc, Los Alamos National Laboratory,
Colorado State University, University of Utah, National Cancer
Institute*

10:15 am **WAM-B.2**

**Uncertainty Quantification in Internal Dose Estimation in
Defense and Consequence Management Applications**

*Emmanuel Mate-Kole, Dmitri Margot, Ignacio Bartol, Shaheen
Dewji*
Georgia Institute of Technology

WEDNESDAY

10:30 am

WAM-B.3

Discussion and Demonstration of Tools for Practical Characterization of Radiopharmaceutical Extravasation

*Josh Knowland, Dustin Osborne, Darrell R Fisher
Lucerno Dynamics, University of Tennessee, University of Washington, Versant Medical Physics and Radiation Safety*

10:45 am

WAM-B.4

An Open Source Method for Creating Anatomically Accurate Dosimetric Phantoms for Biota

Kathryn Higley, Delvan Neville, Joshua Hargraves, Brockway Flesher Elmore II
Oregon State University*

11:00 am

WAM-B.5

Counting Efficiencies Determined Considering the Biodistribution of I-131 in the Whole-body Counting Measurement

*MinSeok Park, Jaeryong Yoo, Minsu Cho
Korea Institute of Radiological and Medical Sciences*

11:15 AM – 12:15 PM

CEL-1

A Comprehensive Review on the Development of Radioxenon Detection Systems

12:15 PM – 2:00 PM

WPM-A

How to Collect Air Monitoring Data for Dose Estimation

*Chair: Robert Hayes
Room 49, Mezzanine Level*

12:15 pm

WPM-A.1

How to collect air monitoring data for dose estimation

*Robert Hayes
North Carolina State University*

2:30 PM – 4:30 PM

WPM-B

Emergency Response and Incidents

*Chairs: Joshua Hayes, Cheryl Antonio
Room 49, Mezzanine Level*

2:30 pm

WPM-B.1

Internal/External Dose Magnitude Estimation in a Radiological Emergency

*Joshua Hayes
REAC/TS*

3:30 pm

WPM-B.2

The McCluskey Case: Explosion in a Glove Box and Resultant Americium-241 Contamination

*Cheryl Antonio, Eugene H Carbaugh
HMIS, Retired*

THURSDAY

8:00 AM – 10:00 AM

THAM-A

Effective Communication in Radiation Protection

*Chairs: Sara Dumit, Emily Caffrey
Room 49, Mezzanine Level*

8:00 am

THAM-A.1

Radiation Risk Communication Techniques

Emily Caffrey

8:15 am

THAM-A.2

Tools for effective communication with radiation workers: Improving how to listen, relate, empathize, and communicate internal doses.

*Sara Dumit
Los Alamos National Laboratory*

8:30 am

THAM-A.4

Mitigating the Psychological Harm from Actinide Intakes

*John A Klumpp, Luiz Bertelli, Jeffrey Hoffman, Deepesh Poudel, Tom Waters
Los Alamos National Laboratory*

8:45 am

THAM-A.5

Scenarios

10:30 AM – 12:30 PM

THAM-B

Internal Dosimetry Scenarios: A tabletop exercise

*Chairs: Cheryl Antonio, Gus Potter
Room 49, Mezzanine Level*

10:30 am

THAM-B.1

Internal Dosimetry Scenarios: A tabletop exercise

Cheryl Antonio

PROFESSIONAL ENRICHMENT PROGRAM (PEP)

Sunday, February 5 • ALL PEP PROGRAMS WILL BE VIRTUAL

9:00 AM – 11:00 AM PST

PEP 1

Federal Radiological Response Teams

Ken Groves

2:30 PM – 4:30 PM PST

PEP 3

Calculating Effective Dose and Risk of Cancer from Internal Intake and External Exposure to Radioactive Material

David Stuenkel

12:00 PM – 2:00 PM PST

PEP 2

Review of Current and Proposed ICRU/ICRP Dosimetry Quantities for Radiation Protection

Cari Borrás

CONTINUING EDUCATION LECTURES (CEL)

Wednesday, February 8 • Room 49, Mezzanine Level

11:15 AM – 12:15 PM

CEL 1

A Comprehensive Review on the Development of Radioxenon Detection Systems



HPS 2023
NATIONAL HARBOR, MD
23-27 JULY 2023

Health Physics Society 68th Annual Meeting

23-27 July 2023 • National Harbor, MD

Join us at the Gaylord National Resort & Conference Center for five days of education, networking, and professional development.

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MEMORIAL UNION FLOOR PLAN

