DELAWARE VALLEY SOCIETY FOR RADIATION SAFETY
A Chapter of the Health Physics Society

THE 11th ANNUAL ROBERT FORREST MEMORIAL MEDICAL HEALTH PHYSICS FULL DAY SYMPOSIUM

Friday, June 14th ,2024

09:00am – 5:00pm

Breakfast and Lunch will be provided

Location: Jefferson Health Abington Hospital
1200 Old York Road
Abington, PA 19001

Topics:

The Case Against the LNT
-Alan Fellman, Ph.D., CHP – NV5 Dade Moeller Alan Fellman

The NNSA Office of Radiological Security's Cesium Irradiator Replacement Project (CIRP)
-Nate Russo - Pacific Northwest National Laboratory

Participating in The Cesium Irradiator Replacement Project in A Post Pandemic World
- Steve King, CHP, DABMP, FHPS – Penn State Health

Growing Need for a Standardized Approach to Radiopharmaceutical Extravasations
-Michael R. Drelich, MS, RRPT - University of Pittsburgh & University of Alabama

Getting Savvy: Improving Awareness of Staff Caring for Radioactive Patients
-Brian Serencsits, MHP, CHP - Memorial Sloan Kettering

Medical Laser Safety Basics for Health Physicists
-Deirdre Elder, CHP - University of Colorado Health

To Inventory or not to Inventory - protective apron integrity assessment process and documentation
-Glenn M. Sturchio, PhD, CHP - Mayo Clinic Health System

Nuclear Regulatory Commission Inspections & Violations
-Anne DeFrancisco & Jonathan Pfingsten - Nuclear Regulatory Commission

Cost: $65 for members
$75 for non-members (includes FY 23-24 DVSRS Membership)

Registration: To register, email dvsrschapterhps@gmail.com and provide Name(s), method of Payment & Attendance type (In person or Virtual).

Registration Opens: Friday, April 19th, 2024.
Registration Deadline: Monday, June 10th, 2024

Payment Options:
1. PayPal- Go to the DVSRS Chapter Webpage: hpschapters.org/DVSRS/ Select payment option from the drop down menu and Click Add to Cart. Options are PayPal or Debit or Credit Card.
2. Check- Make out to "**DVSRS**".

Send to: Brendan Dunleavy, Radiology
Jefferson Health Abington Hospital
1200 York Road
Abington, PA 19001

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Program:

08:00AM – 09:00AM **Arrivals & Light Breakfast**
09:00AM – 09:10AM **Welcome**

09:10AM – 10:10AM **The Case Against The LNT**

Alan Fellman, Ph.D., CHP – NV5 Dade Moeller (Virtual Speaker)

Alan Fellman earned a Master of Public Health degree from the University of Michigan and a doctorate degree in Radiological Studies from New York University. He attained certification in Comprehensive Health Physics from the American Board of Health Physics in 1995. He has spent the bulk of his career providing radiation safety training and consulting services to a variety of commercial and public sector clients. He is a senior health physicist with NV5 Dade Moeller and is the manager of the NV5 Training Academy. Dr. Fellman's consulting experience includes preparation of radioactive materials license applications and written radiation safety programs for numerous NRC and Agreement State licensees, design of final status surveys in support of decommissioning, and comprehensive radiation safety program compliance audits. He has also provided litigation support to several clients, serving as an expert witness in lawsuits involving allegations related to radiation-induced health effects and other issues related to radiation.

Abstract: Radiation safety programs must establish compliance with radiation regulations which continue to be based on the linear no-threshold (LNT) hypothesis and the ALARA principle, despite overwhelming sound, peer-reviewed science that demonstrates the existence of a carcinogenic threshold and/or hormesis at low doses. Worldwide public health policy related to radiation is driven by the LNT-derived ALARA policy, impacting decisions that span numerous issues of great importance, including energy production, medicine, and environmental remediation. Despite compelling evidence revealing LNT to be fraudulent, the consistent response taken by regulatory agencies and scientific bodies whose recommendations are cited as the basis of regulatory actions is to deflect or rationalize away the science at best or simply pretend it doesn't exist at worst to maintain allegiance to a worldview of radiation safety built on LNT and ALARA. A sample of relevant findings refuting the LNT which throws the ALARA approach to radiation safety into question will be presented.

10:10AM – 10:45AM ***BREAK***

10:50AM – 11:30AM **The NNSA Office of Radiological Security's Cesium Irradiator Replacement Project (CIRP)**

Nate Russo - Pacific Northwest National Laboratory

Nate Russo is the Domestic Reduce Program Manager for the Pacific Northwest National Laboratory (PNNL). Nate has been supporting the National Nuclear Security Administration in various capacities since 2008 with a focus on radiological emergency response. He has worked with the Office of Radiological Security since 2019 and joined PNNL in February of 2020.

Abstract: ORS is working with domestic users of cesium-137 and cobalt-60 based irradiators who are interested in converting to viable non-radioisotopic alternatives. The Cesium Irradiator Replacement Project (CIRP), offered by ORS, provides qualified facilities that are interested in making the switch with a financial incentive towards the purchase price of a new non-radioisotopic device as well as the removal and disposal of the disused source.

11:35AM - 12:00PM **Participating in The Cesium Irradiator Replacement Project in A Post Pandemic World**

Steve King, CHP, DABMP, FHPS – Penn State Health

Steve King, CHP, DABMP, FHPS, is the Director of Health and Imaging physics at Penn State Health and is the Radiation Safety Officer (RSO). Steve has worked at Penn State for over forty years. He is very active in the Health Physics Society and the American Board of Medical Physics. Steve is also active in the American Association of Physicists in Medicine. Steve has given hundreds of presentations on various aspects of Medical Health Physics. Steve teaches Medical Radiation Safety Officer training at Oak Ridge Associated Universities in Oak Ridge TN annually.

Abstract: Participating in the Cesium Irradiator Replacement Project (CIRP) requires thorough planning and inclusion of all affected groups in your hospital. The discussions and planning occur months prior to the removal. This presentation reviews what the CIRP is, what is required of your facility and the steps necessary to get yourself ready to remove the irradiator and replacing the Cesium Irradiator with an X-ray irradiator. Included are photographs of a removal so you will understand the complexities and detail necessary to successfully remove the irradiator.

12:00PM – 01:30PM ***LUNCH***

01:35PM – 01:55PM **Growing Need for a Standardized Approach to Radiopharmaceutical Extravasations**

Michael R. Drelich, MS, RRPT - University of Pittsburgh & University of Alabama

Michael R. Drelich, MS, RRPT, serves as a Medical Health Physicist at the University of Pittsburgh, where he supports UPMC hospitals in both research and clinical capacities. His primary focus lies in operational health physics, dedicated to enhancing safety and efficiency while ensuring regulatory compliance. Mike graduated with a Master of Science in Health Physics from the University of Alabama at Birmingham in 2024. Prior to joining the University of Pittsburgh, he contributed 7.5 years as a Radiation Protection Technician at Beaver Valley Power Station. He successfully passed the NRRPT examination and the ABHP Part 1 examination in 2021. Currently, he is acquiring the necessary experience and knowledge to qualify for Part 2 of the ABHP exam, aspiring to become a Certified Health Physicist (CHP).

Abstract: Radiopharmaceutical extravasations, where injected radioactive substances unintentionally leak into surrounding tissue, present a challenge in radiation safety and patient care. With an estimated incidence rate of 3-23%, there is a need for reliable management strategies. This analysis introduces a novel approach to extravasation dose assessment, focusing on a model that estimates radiation doses radiating outward to affected tissues rather than the extravasated volume itself. This model uncovers discrepancies in traditional assumptions used in dose assessments, which are often overlooked in standard dose calculations. It suggests that current, accepted models might overestimate the potential for deterministic effects, highlighting the disparity between expected and observed clinical outcomes. Considering the Nuclear Regulatory Commission's (NRC) ongoing rulemaking efforts, which could potentially lead to overly conservative changes in radiopharmaceutical regulations, the urgency of aligning dose assessment techniques with actual clinical observations is underscored. The findings call for regulatory measures that balance safety with practicality, grounded in proven science. This approach emphasizes the need for further research to develop a standardized model that better reflects the realities of clinical practice, thereby avoiding unnecessary burdens on medical practitioners and enhancing patient safety without imposing disproportionate regulatory constraints.

02:00PM – 02:40PM **Getting Rad Savvy: Improving Awareness of Staff Caring for Radioactive Patients**

Brian Serencsits, MHP, CHP - Memorial Sloan Kettering

Brian serves as the Lead Health Physicist for clinical operations at Memorial Sloan Kettering Cancer Center. He has received his Bachelor of Science degree from Bloomsburg University of Pennsylvania, Master of Health Physics degree from Oregon State University, and certification as a Health Physicist from the AAHP in 2020. Brian's primary job responsibilities involve oversight of the radiopharmaceutical theranostics program and coordination of clinical trials with study sponsors, clinical research associates, and hospital staff. Brian has also held an instructor appointment at Bloomsburg University of Pennsylvania where he has taught health physics classes for undergraduate students, and is beginning as an Instructor at Memorial Sloan Kettering's School of Radiation Therapy in the fall. He is currently a member of the HPS Mentorship Committee and is Secretary of the Greater New York Chapter of the HPS.

Abstract: The "Rad Savvy" project aimed to increase staff awareness and improve working knowledge of those caring for radioactive patients. 228 staff members, including, but not limited to, nursing, rehabilitation, environmental services, and patient transport services, provided anonymous feedback on the current
Radiation Safety Program. Along with personal radiation knowledge, the individual's ability to navigate and comprehend the provided resources, such as standard of guidance documents, patient-specific clinical documents, and room posting and signages, was surveyed. Several improvement items were implemented based on the survey results and post-survey communication with staff. Improvements to website design, accessibility of radiation safety reference documents, and an always-available online training module were the most requested items of the respondents.

02:40PM – 03:05PM ***BREAK***

03:10PM – 03:30PM **To Inventory or not to Inventory - Protective Apron Integrity Assessment Process and Documentation**

Glenn M. Sturchio, PhD, CHP - Mayo Clinic Health System (Virtual Speaker)

Dr. Sturchio is the Director of Health Physics for Mayo Clinic and is responsible for the oversight of the radiation safety program at the Arizona, Florida, and Minnesota campuses, as well as the Mayo Clinic Health Systems facilities throughout Minnesota and Wisconsin. He is an Assistant Professor of Physiology in the Mayo College of Medicine and Science; his teaching duties include a Medical Health Physics course in the Graduate School and a Radiation Biology & Radiation Protection course in the School of Health Sciences' Radiography Program. Further, Dr. Sturchio is a former Council Member of the National Council on Radiation Protection and Measurements (NCRP) and serves on NCRP's PAC-2 committee that oversees the Operational Health Physics projects. Glenn received his PhD from the School of Public Health at the University of Minnesota and is certified in the comprehensive practice of health physics by the American Board of Health Physics. He is active in the Health Physics Society, the American Academy of Health Physics, and the American Board of Health Physics, having held committee positions in all three organizations.

Abstract: The use of protective aprons in the diagnostic and interventional X-ray environment is a primary radiation protection intervention to mitigate personnel radiation exposure and to ensure that occupational radiation dose is as low as reasonably achievable. The routine assessment of protective apron integrity is necessary to ensure optimal radiation protection of staff, as well as provide comfort to the staff that the protective aprons are effective. This presentation details our annual process in evaluating protective apron integrity; from the initial contact with stakeholders, through the evaluation procedure including pass/fail criteria, and how we document successful passage of the evaluation. We present the derivation of our rejection criterion underscoring the opportunity for site specific values to influence decision making. We highlight the advantages of using readily visible colored tags to document successful passage of the integrity check both to the end user and the auditor. We examine the need for maintaining an inventory of protective aprons (within the

framework of our process) from a radiation protection perspective and find it wanting. In addition, we discuss how the protective apron integrity assessment process is interwoven into our radiation safety training, radiation source permitting, and radiation source auditing programs (aka, safety management system).

03:35PM – 04:15PM **Medical Laser Safety Basics for Health Physicists**

Deirdre Elder, CHP - University of Colorado Health (Virtual Speaker)

Deirdre Elder is a Certified Health Physicist with an undergraduate degree in Engineering Physics from Colorado School of Mines and a Master's degree in Radiological Health Sciences (Health Physics) from Colorado State University. She is the UCHealth Radiation Safety Manager, and serves as the Radiation Safety Officer and Laser Safety Officer for UCHealth University of Colorado Hospital, and 7 other hospitals in the UCHealth system. She is also a Certified Medical Laser Safety Officer and a member of the Laser Institute of America.

Abstract: Healthcare facilities may have a variety of lasers, including excimer lasers with ultraviolet wavelengths, diode lasers with different visible wavelengths and carbon dioxide lasers that emit in the infrared. They are used in many clinical settings, including ophthalmology and dermatology clinics, interventional radiology and cardiology, and the operating room. A medical laser safety program must include the elements to comply with the current the American National Standard for Safe Use of Lasers in Health Care (ANSI Z136.3) and the Recommended Practices for Laser Safety in Perioperative Practice Settings developed by the Association of Perioperative Registered Nurses.

04:20PM – 05:00PM **NRC Oversight at Medial Facilities and Reactive Inspection for Occupational Overexposure**

Anne DeFrancisco - Nuclear Regulatory Commission

Anne DeFrancisco currently serves as the Branch Chief of the Medical and Licensing Assistance Branch, Division of Radiological Safety and Security, Region I, US Nuclear Regulatory Commission, overseeing 12 health physicist and licensing program staff. Anne is a graduate of Lehigh University, with a Bachelor of Science in Materials Science and Engineering. She started at the NRC HQ office in 2001 and transferred to the Region I office in 2003. Her various roles included working as an operating reactor inspector, an enforcement specialist, a technical assistant, a senior safety culture assessor and Anne served as an Executive Technical Assistant to the Executive Director for Operations at NRC HQ. She is a recipient of the Philadelphia Federal Executive Board Gold Medal for Service Excellence.

Jonathan Pfingsten - Nuclear Regulatory Commission

Jonathan Pfingsten currently serves as a Senior Health Physicist of the Medical and Licensing Assistance Branch, Division of Radiological Safety and Security, Region I, US Nuclear Regulatory Commission. Jonathan is a graduate of the University of Illinois, Urbana-Champaign, with a Bachelor of Science in Nuclear Engineering. He has served in the Region I office since 2014, with various roles as a Resident Inspector at the Pilgrim and James A. FitzPatrick Nuclear Power Plants; a Health Physicist in the Commercial, Industrial, Research and Development and Academic Branch, and a Technical Assistant in the Division of Nuclear Materials Safety. In his current position, Jonathan serves as Region I's Radiation Safety Officer.

Abstract: The NRC uses a performance-based, risk-informed approach to nuclear materials oversight; this presentation will explore the agency's inspection guidance and regional inspection practice at medical facilities, for routine and reactive inspections. Recent nuclear materials operating experience will be overviewed and a specific citation from Region I will be shared, involving the failure to control occupational dose to a nuclear pharmacy technician exposed to F-18. The presentation will review inspection and oversight techniques and conclusions regarding causal factors, along with additional identified violations associated with dosimetry use and conduct of operations to ensure the dose in any unrestricted area does not exceed regulatory limits.

05:00PM – 05:05PM **Closing Remarks**

Happy Hour: Señor Salsa - 1301 Old York Rd, Abington, PA 19001

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