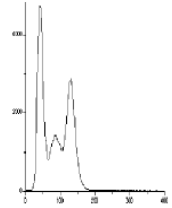


# Fourth Annual Technical Symposium



midwestchapter

Health Physics Society

**April 16, 2011**  
**Illinois Institute of Technology**

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## Symposium Vendors

Ameriphysics, LLC  
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## **Chapter Officers**

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Past President: Cindy Boggs

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Program: Karl Fischer  
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## **Affiliate Members**

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Ameriphysics, LLC  
Bionomics, Inc.  
Chase Environmental Group, Inc.  
DEQ Technical Sales  
Landauer, Inc  
Mirion Technologies—Dosimetry Services  
Philotechnics, Ltd.

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## Agenda

**7:30 a.m. Registration and Continental Breakfast**

**8:15 a.m. Welcoming Remarks**

*Sheri Minnick*

President, MWCHPS

*R. Russell Betts*

Dean, IIT College of Sciences and Letters

**8:30 a.m. Radiological Design Considerations for the Pit Disassembly and Conversion**

*Kathryn H. Pryor, CHP*

Pacific Northwest National Laboratory

**9:30 a.m. Doses from Diagnostic Medical Procedures: An Update**

*Richard Cooke, MS, DABR*

Medical Physics Consulting

**10:00 a.m. Radiation Considerations in Radioembolization Using Yttrium-90 Glass Microspheres**

*Vanessa L. Gates, MS, DABR, DABSNM*

Northwestern Memorial Hospital

**10:30 a.m. Coffee Break**

**11:00 a.m. Direct Ion Storage: Revolutionizing Radiation Monitoring Programs**

*Kip Bennett*

Mirion Technologies (GDS) Inc., Dosimetry Services Division

**11:45 a.m. A Look at Health Physics Education Programs**

*Jim Schweitzer, Ph.D., CHP*

Purdue University School of Health Sciences

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## Agenda

**12:15 p.m.** Lunch Break

**1:30 p.m. Audience Choice:** Introduction to Project Management Certification for Health Physicists OR Environment, Safety, and Health Planning for Decommissioning OR Small Facility Decommissioning: Case Studies and Lessons Learned

*Tom Hansen, CHP, PMP*  
Ameriphysics, LLC

**2:00 p.m.** Resumption of U and Pu Operations at a DOE Metrology Laboratory

*Rock E. Aker, CHP*  
New Brunswick Laboratory, U.S. Department of Energy

**2:30 p.m.** Safe and Secure Storage of Used Nuclear Fuel

*Raymond P. Termini, PMP*  
Exelon Nuclear

**3:15 p.m.** Break

**3:45 p.m.** The New 10 CFR 37: NRC Security Rulemaking Anticipated

*Geoffrey Warren*  
U.S. NRC, Region III

**4:15 p.m.** Radiation Detection Instrumentation Demonstration

*Eugene Jablonowski*  
U.S. EPA Region 5, Emergency Response Program

**4:45 p.m.** End of Program

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## **Radiological Design Considerations for the Pit Disassembly and Conversion**



***Kathryn H. Pryor, CHP  
Chief Health Physicist, Pacific Northwest National  
Laboratory  
President-Elect, Health Physics Society***

The Pit Disassembly and Conversion Project is an important component of National Nuclear Security Administration's Plutonium Disposition strategy. The mission of the PDCP is to convert surplus nuclear weapons pits into plutonium oxide for use as feed to the Mixed Oxide Fuel Fabrication Facility. This one-of-a-kind facility presents a number of radiological design challenges. This presentation will discuss the PDCP processes, radiological design considerations and dose assessment activities accomplished to date on the project.

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### **Kathryn H. Pryor**

Kathy Pryor earned her MS in Radiological Sciences from the University of Washington in 1981 and her MS in Biology in 1979. Following graduation, she was employed as a Health Physics Engineer at the San Onofre Nuclear Generating Station and in the corporate office. She was the RSO at the University of Southern California Health Sciences Campus for two years before taking a position at the Trojan Nuclear Plant. In 1992, Kathy moved to PNNL and is currently Chief Health Physicist in the Radiation Protection Division.

Kathy has been Certified Health Physicist since 1986 and has served a five-year term as a member and officer, including the position of Chair in 2002. Kathy has been a member of the HPS since 1980 and is a member of the Columbia Chapter. She has served on the HPS Board of Directors prior to being elected to the position of President-Elect.

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## Doses from Diagnostic Medical Procedures: An Update



***Richard Cooke, MS, DABR  
Medical Physics Consulting***

This presentation is a short summary of the status of Diagnostic Medical Doses. The use of Computed Tomography and Interventional Fluoroscopic Procedures was cited in NCRP Report No. 160 as significantly increased from early 1980s to 2006. The summary puts the risks of these procedures in perspective using the LNT model for extrapolation from high doses. The risk is generally low despite the shortcomings of the LNT model and is to be differentiated from the risks and doses from application errors and misuse of these modalities as frequently quoted in the lay press.

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### Richard Cooke

Richard Cooke has had his own practice in Medical Physics Consulting for 30 years. He currently consults full-time to hospitals, clinics, and private offices for JCAHO inspections and ACR accreditation for magnetic resonance imaging, mammography, computed tomography, and ultrasound, as well as for site shielding, radiation safety, equipment selection, and testing. For 16 years, he was a Health Physicist at Argonne National Laboratory, a Medical Physicist for 7 years at Michael Reese Hospital in Chicago, Radiation Control Officer for the U.S. FDA, and Physicist for the Bureau of Radiological Health in Rockville, Maryland. He currently teaches Diagnostic Medical Physics at seven large urban Radiology residency programs in the Chicago area. Having helped develop and implement the current regulations on electronic product radiation, he has remained active in state inspections.

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## **Radiation Considerations in Radioembolization using Yttrium-90 Glass Microspheres**

*Vanessa L. Gates, MS, DABR, DABSNM  
Northwestern Memorial Hospital, Division of Nuclear  
Medicine*

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## **Direct Ion Storage: Revolutionizing Radiation Monitoring Programs**



*Kip Bennett  
Vice President, Technical Operations, Mirion  
Technologies (GDS) Inc., Dosimetry Services Division*

Throughout the years, there have been new developments in the field of personnel radiation dose monitoring, from film to Thermoluminescence and Optically Stimulated Luminescence, to the present day Direct Ion Storage. This presentation will discuss the progression of personnel dosimetry from film to the digital age with the new Instadose personal dosimeter.

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### **Kip Bennett**

Kip is the Vice President of Technical Operations for Mirion Technologies (GDS), Inc. His responsibilities include the overall management of the Film, TLD, Cr39, and new Instadose programs. Kip has been with Mirion for 15 years, where he started in the TLD laboratory. Prior to Mirion, Kip was in the Nuclear Navy stationed in Bremerton, WA. He has a BS in Biology from California State University, Long Beach.

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## A Look at Health Physics Education Programs



***Jim Schweitzer, Ph.D., CHP***  
***Assistant Professor of Health Physics, Purdue University School of Health Sciences***

The Health Physics Society task force report discussed the “Human Capital Crisis” (2004) as it relates to the supply of qualified radiation safety professionals to support energy, security, and health related needs. The report is summarized and the recommendations of the task force are presented. The current status of health physics academic programs are reviewed and the trends in health physics education are discussed.

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### **Jim Schweitzer**

Jim Schweitzer has served as Director of Radiological and Environmental Management (health and safety) at Purdue University for 10 years. He has also served as the Radiation Safety Officer for 24 years in a program that is responsible for a U.S. NRC Broad Scope and two additional NRC licenses. He also has a faculty appointment in the School of Health Sciences, where he teaches applied health physics.

His memberships include the Health Physics Society, Hoosier Chapter HPS, and Campus Radiation Safety Officers.

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## Audience Choice



***Tom Hansen, CHP, PMP***  
***President and Corporate Radiation Safety Officer,***  
***Ameriphysics, LLC***

### **Introduction to Project Management Certification for Health Physicists**

This presentation provides an introduction to the Project Management Institute's (PMI) process framework upon which the Project Management Professional (PMP) credential is tested.

### **Environment, Safety, and Health Planning for Decommissioning**

This presentation provides an introduction to site-specific health and safety plans, job hazard analysis, and typical hazards encountered during decommissioning.

### **Small Facility Decommissioning: Case Studies and Lessons Learned**

This presentation provides an overview of three projects that were originally tackled with a small facility approach and a discussion of the lessons learned from each.

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## **Tom Hansen**

Tom Hansen is President and Corporate Radiation Safety Officer of Ameriphysics. He has more than 24 years nuclear field experience, including more than 13 years as a Corporate Radiation Safety Officer. Tom's education includes a BS in Radiation Protection and the U.S. Navy Nuclear Power Program. He is a Certified Health Physicist, Project Management Professional, and a member of the Exam Panel of the National Registry of Radiation Protection Technologists.

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## Resumption of U and Pu Operations at a DOE Metrology Laboratory



***Rock E. Aker, CHP  
Chief Operations Officer, New Brunswick  
Laboratory, U. S. Department of Energy***

This presentation will provide a brief history of the New Brunswick Laboratory, will address the facility operations stand down in December 2004 and the laboratory's activities to resume its United States and international mission work in the measurement technology of uranium and plutonium. Resumption activities include development of a new safety basis and associated safety management programs, material inventory reduction and small scope decommissioning.

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### Rock E. Aker

Rock Aker joined NBL as a consultant in 2005 and became the COO in 2009. In this capacity, he manages and directs all laboratory operations and mission related activities. Prior to his work at NBL, Rock provided consulting services in nuclear operations, health physics, and decommissioning. He has acted as a consultant in decommissioning to the International Atomic Energy Agency, and has conducted training in decommissioning to organizations in the United States, England, Canada, and Romania. Rock also previously worked at several ComEd/Exelon nuclear power plants and was the site Radiation Protection Manager at three multi-unit reactor sites. He is a former Certified Senior Reactor Operator and has been a Certified Health Physicist since 1985. He holds a BS in physics from Purdue University.

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## Safe and Secure Storage of Used Nuclear Fuel



***Raymond P. Termini, PMP  
Manager, ISFSI Implementation & Support Exelon  
Nuclear***

Used fuel has been safely stored in nuclear plant spent fuel pools for decades. As the deadline has now come and gone for the U.S. DOE to pick up and transport the spent fuel, these pools are now reaching their capacity requiring other options. This presentation will introduce the history and provide an overview of the current and primary option for long-term storage of spent fuel – dry cask storage – as well as Exelon’s experience with dry cask storage implementation.

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### Ray Termini

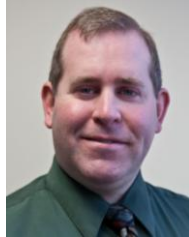
Ray Termini has been working in the nuclear field since 1976. He was involved in initial construction work at LaSalle County Nuclear Generating Station and worked in plant Operations for 22 years, moving through a succession of operations positions from non-licensed to licensed Operator to Senior Reactor Operator.

Ray received his BS from Northern Illinois University in 1988 and obtained his Masters in Project Management in 1997. Ray began managing nuclear projects related to Exelon’s reactor outages and modifications in 1998, moving to Dry Fuel Storage project work in 2004. In 2008, he was selected to manage engineering and support activities associated with the selection of spent fuel assemblies for long-term dry storage at Exelon’s nuclear plant site Independent Spent Fuel Storage Installations (ISFSIs).

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## **The New 10 CFR 37: NRC Security Rulemaking Anticipated**



***Geoffrey Warren***  
***Health Physicist, U.S. NRC Region III***

The Nuclear Regulatory Commission is currently working on issuing a new regulation, 10 CFR Part 37, to address the security of Category 1 and 2 quantities of radioactive material. This presentation will provide information on significant changes proposed from the current implementation of the Increased Controls and the status of the rulemaking process.

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### **Geoffrey Warren**

Geoffrey Warren earned his MS in Radiological Health Sciences (Health Physics) from Colorado State University in 2001, and has been working as a materials inspector for the U.S. NRC Region III office in Lisle, Illinois, since 2002. He is currently serving as a regional representative on the Part 37 rulemaking working group.

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## **Radiation Detection Instrumentation Demonstration**



***Eugene Jablonowski***  
***Health Physicist***  
***U.S. EPA Region 5 Emergency Response Program***

This demonstration will include two EPA instruments: the BNC SAM-940 portable radioisotope identifier (RIID), featuring a LaBr detector, and the Radiation Solutions RSX-4 digital airborne gamma-ray spectrometer, featuring multiple 2" x 4" x 16" NaI detectors with a digital MCA system.

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### **Eugene Jablonowski**

Eugene Jablonowski is currently the Health Physicist for the U.S. EPA Region 5 Emergency Response Program, supporting regional and national programs ranging from radiological emergency response and recovery planning to radiological site cleanup. He also spent 12 years as the EPA Project Manager for decontamination and decommissioning and site cleanup activities at the DOE Fernald and Portsmouth sites in Ohio, and acted as EPA's representative on the Fernald Citizens Advisory Board.

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# About the Midwest Chapter

## Chartered on June 12, 1961

Health Physics is the science concerned with the recognition, evaluation, and control of health hazards to permit the safe use and application of ionizing radiation. The Health Physics Society is a scientific and professional organization whose members specialize in occupational and environmental radiation safety. The primary purpose of the Society is to support its members in the practice of their profession.

The objectives of the Midwest Chapter of the Health Physics Society (MWCHPS) are to aid in the work of Health Physics, to improve dissemination of information between individuals in this field and related fields, to improve public understanding of the problems and needs in radiation protection, and to promote and improve Health Physics as a profession. These objectives shall be accomplished by meetings, conferences and publications on any phases of Health Physics.

## Joining the Chapter

Membership in the MWCHPS will help you keep connected with the local health physics community. We offer programs to help you meet and network with other health physicists and to keep abreast of developments and controversies in our field. For information on how to join, visit our website, [hpschapters.org/midwest](http://hpschapters.org/midwest).



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## Acknowledgements

### Symposium Committee

Karl Fischer  
Sheri Minnick  
John Schrage  
Adam Becker  
Kelly Grahn  
John Vacca  
Shannon Phend  
Cindy Boggs

## Special Thanks

Illinois Institute of Technology