

## The Boice Report #62



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### Radiation in Medicine—Who's Responsible for Protection?

There are so many meetings these days, so little travel money, and so many responsibilities at home, how do you choose what to attend? I was planning to mention two meetings that you shouldn't miss: (1) the 5–6 March 2018 National Council on Radiation Protection and Measurements (NCRP) Annual Meeting in Bethesda, Maryland (“NCRP and Radiation Protection Responsibility in Medicine”) and (2) the 4–7 February 2018 Health Physics Society Midyear Meeting in Denver, Colorado (with an NCRP focus on “Emerging Issues in Radioactive Waste Management,” Program Chair S.Y. Chen). Unfortunately, I ran out of space and time (sounds like an issue for the National Aeronautics and Space Administration and the final frontier) and will postpone “waste” for another time.

The number one contributor to population dose in the United States is [medicine](#), and the usage is [increasing](#). Thus it is timely to have a full discourse on who's responsible for radiation protection in medicine. [Don Frush](#) and [Larry Dauer](#) (cochairs) have assembled a marvelous Program Committee (see picture) to provide an innovative look at responsibilities and gaps. While the program will be fleshed out shortly, the outline provided here should be enough to jot the meeting on your calendar!



**2018 NCRP meeting Program Committee, left to right: Lawrence Dauer, Memorial Sloan-Kettering Cancer Center; Donald Frush, Duke University Medical Center; Linda Kroger, University of California Davis Health; Fred Mettler, University of New Mexico; Donald Miller, Food and Drug Administration; Julie Timins, New Jersey Commission on Radiation Protection; Pat Zanzonico, Memorial Sloan-Kettering Cancer Center**  
Photos courtesy of NCRP

**Highlighted Lectures.** The keynote speakers are the special events for the NCRP annual meeting. The 15<sup>th</sup> Annual Warren K. Sinclair Keynote Address will be given by [Marvin Rosenstein](#). Marvin's topic will touch on the [history](#) of radiation protection in medicine. The 2<sup>nd</sup> Thomas S. Tenforde Topical Lecture will be given by [Roy Shore](#). Roy's important and highly discussed topic, sure to be of interest to many, will be “Radiation Protection and the [Linear Nonthreshold Model](#).” The 42<sup>nd</sup> Lauriston S. Taylor Lecture on Radiation Protection and Measurements will be given by [Hans-Georg Menzel](#).

Please note that the sessions and topics below are in draft form, are under final review, and may change. Also, the hyperlinks throughout are my own choices and may very well change. Nonetheless, the flavor of “*radiation protection responsibility*” should come through!

**Exhortation and Inspiration.** After the presentation of the colors and the singing of our national anthem (by the incomparable [Kimberly Gaskins](#)), Cochair Larry Dauer will start with an “exhortation”—urging us to listen and then act. “Inspiration” will come from the [patient's perspective](#)—on applying firsthand knowledge to improving the experiences of patients and caregivers in the realm of radiation as used in medicine.

**Dose, Benefit, Risk, and Safety.** This session will cover [Radiation in Medicine—Current and Future Trends](#), [Effective Dose](#) and [Alternatives, Benefits and Risks](#), and [Quality and Safety Initiatives](#).

**Diagnostic X-Ray Imaging.** This session will include [Radiographic Imaging](#) (computed radiography/digital radiography, mammography, fluoroscopy), [Computed Tomography](#), and [Dental Radiography](#).

**Nuclear Medicine and Radiation Oncology.** This session will tackle [Hybrid Imaging](#), [Nuclear Medicine Therapy](#), Radiation Oncology—[External Beam Radiation Therapy](#), and [Brachytherapy](#).

**Dialogue and Shared Decision Making.** This session will embrace [Credible Messaging for Medicine/Science](#), [Patient Perspectives](#), [Informed Decision Making](#), and [Pediatric Populations](#).

**Fostering Innovations.** This last session will conclude with [Medical Physics 3.0, Advancing Safety and Equipment Design](#), and [Deep Monitoring—Harnessing Computing Power for Real-Time Safety](#).

**Conclusions and Path Forward.** Don Frush (cochair) will wrap things up with a summary of the 1½-day meeting, and then [John Boice](#) (NCRP president) will conclude with a brief [NCRP vision](#) for the future with an emphasis on medicine (per below). The proceedings will be published in the *Health Physics Journal*, and slide presentations and video recordings will be available on the [NCRP](#) website.

#### **What recent NCRP guidance exists for medicine?**

- [Commentary No. 26, Guidance on Radiation Dose Limits for the Lens of the Eye \(2016\)](#)
- [Commentary No. 24, Health Effects of Low Doses of Radiation: Perspectives on Integrating Radiation Biology and Epidemiology \(2015\)](#)
- [Statement No. 11, Outline of Administrative Policies for Quality Assurance and Peer Review of Tissue Reactions Associated With Fluoroscopically-Guided Interventions \(2014\)](#)
- [Report No. 174, Preconception and Prenatal Radiation Exposure: Health Effects and Protective Guidance \(2013\)](#)
- [Report No. 172, Reference Levels and Achievable Doses in Medical and Dental Imaging: Recommendations for the United States \(2012\)](#)
- [Program Presentations No. 48, Emerging Issues in Radiation Protection in Medicine, Emergency Response, and the Nuclear Fuel Cycle \(2012\)](#)
- [Program Presentations No. 47, Scientific and Policy Challenges of Particle Radiations in Medical Therapy and Space Missions \(2011\)](#)
- [Report No. 170, Second Primary Cancers and Cardiovascular Disease After Radiation Therapy \(2011\)](#)
- [Report No. 168, Radiation Dose Management for Fluoroscopically-Guided Interventional Medical Procedures \(2010\)](#)
- [Report No. 159, Risk to the Thyroid From Ionizing Radiation \(2008\)](#)
- [Program Presentations No. 43, Advances in Radiation Protection in Medicine \(2007\)](#)

#### **What are the ongoing NCRP activities in medicine?**

- SC 4-5, [Radiation Protection in Dentistry and Oral and Maxillofacial Imaging](#)
- SC 4-7, [Evaluating and Communicating Radiation Risks for Studies Involving Human Subjects: Guidance for Researchers and Reviewing Bodies](#)
- SC 4-8, [Improving Patient Dose Utilization in Computed Tomography](#)
- SC 4-9, [Medical Exposure of Patients in the United States](#)
- SC 1-26, Approaches for [Integrating Radiation Biology and Epidemiology](#) for Enhancing Low Dose Risk Assessment