



Inaugural Pat Durbin Memorial Lecture

"It's All About the Dose: A History of Internal Dosimetry Research"

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4:00 - 5:00 pm, (reception at 3:30pm)
Bldg. 66 Room 317 Auditorium**

It was recognized early on that developing radiation protection guidance and standards for internally deposited radionuclides was a formidable challenge. Even though guidance for controlling exposure to Ra dates back to the 1920s, it was decades later that quantities and methods for calculating radiation dose from internally deposited radionuclides were developed. In the course of developing this guidance, it was also recognized that much information was needed to be able to credibly calculate time- and space-dependent dose rates and accumulated doses. Some of this information could be acquired from data collected in epidemiological studies for radionuclides such as ^{226}Ra , ^{232}Th in Thorotrast, and ^{224}Ra . But there was a rather large gap that needed to be filled for almost all the other radionuclides to which people might be exposed. Thus in the 1940s, internal dosimetry research using primarily experimental animal models began and flourished for the next 30 years. This paper will describe the history of internal dosimetry research through the many programs that were established both in the United States and elsewhere, and will highlight how the results of the research have advanced our knowledge about the relationships between radioactive sources, exposure environments, intakes of radionuclides and resultant radiation doses.