
The New Radiation Shielding Methodologies for Medical Imaging and Therapy – A Primer for the Next 30 Years

An Educational Symposium For the Clinical Medical Physicist

Robert L. Dixon, Course Director

March 3-4, 2005

*Embassy Suites Hotel
Charleston, SC*

Sponsored by the
**Southeast Chapter of the
American Association of Physicists in Medicine
(SEAAPM)**

Symposium Faculty

Jon Anderson, PhD Associate Professor UT Southwestern Medical Center Dallas, Texas	Jim Deye, PhD, FAAPM Bethesda, Maryland
Ben Archer, PhD, FAAPM Professor Baylor College of Medicine Center Houston, Texas	Nisy Ipe, PhD San Carlos, California
Rob Barish, PhD, FAAPM New York, New York	Patton McGinley, PhD Stone Mountain, Georgia
Peter Biggs, PhD, FAAPM Associate Professor Massachusetts General Hospital Boston, Massachusetts	Jim Rodgers, PhD, FAAPM Associate Professor / Chief of Radiation Physics Division Georgetown University Hospital Washington, D.C.
Robert Dixon, PhD, FAAPM Professor Wake Forest University Winston-Salem, North Carolina	Doug Simpkin, PhD, FAAPM Senior Radiation Physicist St. Luke's Medical Center Milwaukee, Wisconsin

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Symposium Schedule Wednesday, March 2, 2005

6:00 PM - 8:00 PM	Symposium Registration & Ice Breaker
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Thursday, March 3, 2005

7:30 AM – 8:15 AM	Registration & Continental Breakfast	
8:15 AM – 8:30 AM	Welcome & Introduction	<i>Bob Dixon</i>
	Symposium Session I Diagnostic Imaging Shielding	
8:30 AM - 9:00 AM	Dose Limits for Medical Shielding Design – NCRP recommendations (NCRP report #147)	<i>Ben Archer</i>
9:00 AM - 9:30 AM	Diagnostic X-ray shielding - Basic Concepts (occupancy factors, workload distributions, primary with pre-shielding, scatter and leakage)	<i>Bob Dixon</i>
9:30 AM - 10:00 AM	Models for Diagnostic X-ray Shielding Calculations (NCRP #147): scatter and leakage, data sets, simple graphical method using “standard room” model	<i>Doug Simpkin</i>
10:00 AM-10:30 AM	Morning Break	
10:30 AM - 11:00 AM	Diagnostic Shielding Examples: Radiographic and R/F rooms	<i>Ben Archer</i>
11:00 AM - 11:30 AM	Mammography and Bone Densitometer Shielding	<i>Doug Simpkin</i>
11:30 AM - 12:00 PM	NCRP #147 CT Scanner Shielding Model and Examples	<i>Bob Dixon</i>
12:00 PM-1:30 PM	Lunch Break	
1:30 PM - 2:30 PM	PET/CT Shielding	<i>Jon Anderson</i>
2:30 PM - 3:00 PM	Panel Discussion: Diagnostic Shielding	<i>Faculty</i>
3:00PM-3:30PM	Afternoon Break	

Session II Radiation Therapy Shielding		
3:30 PM - 4:30 PM	Basic Principles of Radiation Therapy Shielding Design: primary and secondary barriers, maze and door design	<i>Peter Biggs</i>
4:30 PM - 5:15 PM	Photoneutron Physics: production, transport, and shielding methodology	<i>Nisy Ipe</i>
5:15 PM - 5:30 PM	Panel Discussion	<i>Faculty</i>

Friday, March 4, 2005

7:30 AM - 8:00 AM	Continental Breakfast	
	Session III Advanced Shielding Topics and Examples	
8:00AM - 8:30 AM	AAPM/NCRP Radiotherapy Shielding Report: status and methodology	<i>Jim Deye</i>
8:30AM - 9:15 AM	Examples of Radiotherapy Shielding Design based on proposed NCRP methods	<i>Jim Rodgers</i>
9:15AM - 10:00 AM	Neutron Door Shielding: sliding and swinging door design and review of measured data	<i>Pat McGinley</i>
10:00 AM-10:30 AM	Morning Break	
10:30 AM - 11:15 AM	Innovative Linac Vault Design and Practical Shielding Tips (backwards linac, inverted bump, partial arc table clearance, etc.)	<i>Robert Barish</i>
11:15AM - 11:45AM	Radiation Surveys: Methods and Instrumentation	<i>Bob Dixon,</i>
11:45PM - 12:30 PM	Panel Discussion	<i>Session Faculty</i>