



**2022 BWCHPS Annual Business Meeting and Technical Program
May 6, 2022**

Time Period	Presenter	Activity or Presentation
0830-0900	Registration	
0900-1000	Michael Wangler, President, and XCOMM	Business Meeting
1000-1030	Shannon Page and Atna Meshesha, MDE, Air and Radiation Admin	Overview of the Maryland Department of the Environment's Radiological Health Program
1030-1100	Danny McClung, Radiological Consultant, VA Health Administration	VA Ionizing Radiation Registry Program
1100-1130	Innocent Tsoxre, Senior Health Physicist, Cone Health	Dose Estimation for Extravasation of 177Lu, 99mTc, and 18F
1130-1200	Moment with our Affiliates	BWCHPS Affiliate Members
1200-1230	Lunch	
1230-1300	Moment with our Affiliates	BWCHPS Affiliate Members
1300-1330	Erhard Koehler, NSS Savannah	Update on Decommissioning Project
1330-1400	Mr. John Athanason, F and J Specialty product, Inc.	Recent Advances in Emergency Response Air Samplers
1400-1430	Dr. Jeff Waksman, Program Manager, Strategic Capabilities Office	Project Pele Update
1430-1440	Closing	Michael Wangler, President and Korressa Lee, President-Elect

Presentations will be about 20 minutes in length.

Q&A will be 5-10 minutes in length.



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Speaker	Title and Abstract
Shannon Page, and Aetna Meshesha, Maryland Department of the Environment, Air and Radiation Administration	“ <i>Overview of the Maryland Department of the Environment’s Radiological Health Program</i> ”, Insight into the regulatory processes that help reduce the public’s exposure to radiation by regulations, policies, and creative measures. This presentation will focus on Our Mission, Who We Are, What We Do, and How We Do It.
Danny McClung, Radiological Consultant, VA Health Administration	“ <i>VA Ionizing Radiation Registry Program</i> ”
Innocent Tsoxe, Senior Health Physicist, Cone Health	“ <i>Dose Estimation for Extravasation of 177Lu, 99mTc, and 18F</i> ” Extravasation is the situation in which a nuclear medicine injection deposits some fraction of its radioactivity into the soft tissue rather than the blood stream and may result in a large local radiation dose to tissue. An understanding of localized radiation dose from such unexpected events can be an important aspect of clinical radiation protection. The aim of this study was to estimate and assess absorbed radiation dose to localized soft tissue for hypothetical scenarios of radiopharmaceutical extravasation. Specifically, the goal was to understand whether a radiopharmaceutical extravasation could exceed the United States Nuclear Regulatory Commission’s medical event reporting limit of 0.5 Sv dose equivalent to tissue or levels at which tissue damage would be anticipated (1.0 Sv dose equivalent). The study used the GATE Monte Carlo simulation software to calculate self-dose to spherical volumes containing uniformly distributed amounts of common radiopharmaceutical isotopes. Simulated volumes, radioactivity levels, and effective half-lives represented real-world nuclear medicine procedures. Chosen scenarios consisted of 50 mCi and 100 mCi 177Lu within 20 cm ³ and 40 cm ³ tissue volumes and a 60 min biological clearance half-time (59.6 min effective half-life), 6 mCi and 12 mCi 99mTc within 1 cm ³ and 5 cm ³ tissue volumes and a 120 min biological clearance half-time (90 min effective half-life), and 3 mCi and 6 mCi 18F within 1 cm ³ and 5



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	<p>cm³ tissue volumes with a 30 min biological clearance half-time (23.6 min effective half-life). We calculated absorbed doses to be between 5.5 Gy and 23.5 Gy for ¹⁷⁷Lu, between 0.9 Gy and 12.4 Gy for ^{99m}Tc, and between 1.5 Gy and 16.2 Gy for ¹⁸F. Radiopharmaceutical extravasations can result in tissue doses that surpass both medical event reporting limits and levels at which deterministic effects are expected. Radiation safety programs should include identification, mitigation, dosimetry, and documentation of significant extravasation events.</p>
<p>Erhard Koehler, NSS Savannah</p>	<p><i>“Update on Decommissioning Project”</i> N.S. <i>SAVANNAH</i>, the world’s first nuclear-powered merchant ship, is a National Historic Landmark, and the signature remnant of President Eisenhower’s visionary <i>Atoms for Peace</i> program. <i>SAVANNAH</i> is the only NRC-licensed power facility owned by the Department of Transportation.</p>
<p>John Athanason, F & J Specialty Products Inc.</p>	<p>“Recent Advances in Emergency Response Air Samplers”</p>
<p>Dr. Jeff Waksman, Program Manager, Strategic Capabilities Office</p>	<p>“Project Pele Update”</p>