

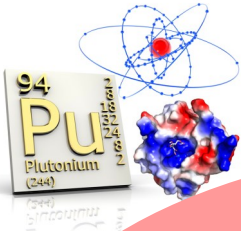


# University of Wisconsin-Madison

## Medical Physics Seminar

### Monday, February 6, 2017

### 1325 HSLC — 4:00 PM



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### **Biological Coordination and Distribution of F-elements: from Radionuclide Decontamination to Targeted Radiotherapy**

Recent events have called attention to the persistent possibilities of environmental and human contamination with radioisotopes such as lanthanide fission products and actinides. In parallel, a few actinide isotopes have recently emerged as promising short-lived radionuclides for targeted alpha-particle therapy. However, limited research has been directed to the characterization of f-element coordination chemistry in biologically relevant species. A combination of biochemical and spectroscopic approaches on both in vitro and in vivo systems is currently used to study the selective binding and recognition of lanthanides and actinides by natural and synthetic chelating ligands. Studying the biokinetics, photophysics, solution thermodynamics, and structural features of f-element complexes has important implications for the development of new decontamination agents but also for the design of future targeted imaging and radio-therapeutic constructs.

1325 Health Science Learning Center ( HSLC ) 4:00 – 5:00 P.M.