



# PHYSICS AND ASTRONOMY COLLOQUIUM

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## **$^{99}\text{Mo}/^{99\text{m}}\text{Tc}$ : Canada from World Leader in Medical Isotope Production to Follower and Return to Nuclear Energy**

### Abstract

$^{99\text{m}}\text{Tc}$  as produced from the decay of  $^{99}\text{Mo}$  is the most widely used medical isotope in the world (millions of medical exams per year). Thus with the Canadian Government's intent to cease production of medical isotopes on the NRU reactor at Chalk River, ON in 2016 the fragility of supply of the  $^{99}\text{Mo}/^{99\text{m}}\text{Tc}$  has come into focus. Following a number of lengthy shutdowns in 2009-2010 plus the growing concern about the use of weapons grade uranium (HEU) for producing these important medical isotopes, Canada and the world began seeking alternative approaches to their production. This talk will review the issues that has brought us to this point as well as an examination of the approaches being proposed for supplying non-reactor produced medical isotopes, including work being led by TRIUMF.