

## PRODUCING <sup>99</sup>Mo WITHOUT USING FISSION

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### Abstract

In recent years, the unplanned shut-downs of NRU and HFR resulted in world-wide shortages of <sup>99</sup>Mo, the parent of <sup>99m</sup>Tc that is a key isotope for medical diagnostics, and highlighted the fragile nature and economics of the current supply chain. This situation led Natural Resources Canada to fund the development of new methods of <sup>99</sup>Mo/ <sup>99m</sup>Tc production that could eventually lead to a more robust supply.

One method, photo-neutron production on <sup>100</sup>Mo using high-power electron linear accelerators, was developed at the Canadian Light Source in Saskatoon and is now being commercialized by Canadian Isotope Innovations Corp. This approach does not use uranium or fission in any part of the process and results in a very low amount of radioactive waste. This talk will give the background of the approach and outline the advantages and challenges of introducing a new paradigm for <sup>99</sup>Mo production.

**Keywords:** molybdenum-99, medical isotope production