

**How nuclear physics can treat cancer – radiotherapy at TRIUMF**

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TRIUMF

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4:00 p.m.

Besides being Canada's particle accelerator centre with emphasis on nuclear, particle and accelerator physics, TRIUMF has a long history of medical isotope production and radiotherapy. Cancer treatment with different particles has been a long-standing commitment at TRIUMF, first with pion therapy and then with proton therapy, for many years operating Canada's only proton therapy facility. To improve treatment with protons, we have established new beam-shaping methodologies by employing additive manufacturing, are investigating new detectors for proton dosimetry, and are researching range verification. In addition, we are investigating the use of alpha and auger emitters for targeted radioisotope therapy and are building a facility at our new ARIEL accelerator to take advantage of its large flux to investigate treatment with photons in less than a second in Flash therapy.

**Wilson Hall, One West**