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## **Advanced High Field Superconducting Cyclotron for Medical Isotopes Productions**

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Radioisotopes are one of the essential cornerstones of modern medicine. They may be used for both diagnostic and therapeutic purposes. Here we present full description of a 12 MeV compact high field superconducting cyclotron with a magnetic field 2 times higher than conventional H- cyclotrons that has been developed recently. This cyclotron will be a modern, state of the art design, which, because of the higher magnetic field, is smaller, lower maintenance, lighter weight and lower power consumption than any other machine available. The purpose of this cyclotron is to provide a sustainable supply of the critical Imaging Isotope F-18 and N13, to eliminate the need for supply from other production facilities for small centers. In addition, this cyclotron will be the most advanced version of the most common isotope production cyclotron used world-wide, we plan to commercialize it for international sales.

**Primary author:** Dr AYASH, Alrashdi (Director of the National Accelerator Technology center at KACST)

**Presenter:** Dr AYASH, Alrashdi (Director of the National Accelerator Technology center at KACST)

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