

# **Nuclear Medicine instrumentation**

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The discovery of radioactivity in the late 1890's by Henri Becquerel was the starting point of a wide range of new discoveries and application. One of those was the development of the radioactive tracer principle by George de Hevesy in 1911 which led to the first experiments using a radioactive tracer in humans in 1923. In the following decades the field progressed e.g. with the discovery of the positron or the development of cyclotrons and nuclear reactors. This made it possible to produce artificial radioactive sources in a large amount.

The instrumentation used today in nuclear medicine (Scintigraphy, SPECT and PET) have their origin in the 1950s. In 1957 Hal Anger developed the Anger camera. This detector concept is used in scintigraphy, and when rotated around the body can be used for Single Photon Emission Computed Tomography (SPECT). Further, in 1951 Wrenn and colleagues published the first application of positrons for brain tumour imaging using coincident detection of annihilation photons. This was the birth of the basic principle used in positron emission tomography (PET) and finally led to the development of the first PET scanner in 1975.