



# THE HISTORY OF THE ATOMIC ERA, RADIOLOGY, AND ATOMIC ENERGY IN PHILATELY



To complete the unique story of the Curie family, in 1934 Marie Curie's daughter, Irene (1895-1956) and her husband, Frédéric Joliot-Curie (1900-1958), produced the first man-made radioactive substances -- radioisotopes, by bombarding aluminum with alpha particles. Enormous energy is required to accelerate these bombarding particles so they can enter and alter the atomic structure. Production and control of these energetic particles for this modern alchemy is an amazing accomplishment of science. Today such isotopes are produced by nuclear reactors and accelerators; they are valuable tools not only in diagnostic and therapeutic medicine but also in other spheres such as industry and biology. Such machines provide the means for producing such artificial radioisotopes such as  $I_{131}$  (commonly known as the "Atomic Cocktail") or  $P_{32}$ , which are used in both radio diagnosis and radiotherapy. The "ray", or beam, of accelerated particles emitted from these ortho, or super voltage machines, capable of focusing beams of electrons, neutrons, alpha particles, beta particles, etc., with energies up to 2 million volts (2 MeV), are used for the radiotherapy of malignant or other diseases. Many stamps show such atomic reactors and nuclear accelerators.