The discoveries of X-rays by Roentgen in 1895, of the phenomenon of radioactivity by Becquerel in 1896 and of radium by Marie & Pierre Curie in 1898 saw the birth of today=s diagnostic radiology, radiation oncology and nuclear medicine. The presentation will include some new historical material obtained from visits to museums in Paris and Warsaw and to the laboratory sites where Marie & Pierre worked 100 years ago. Little know archive material still exists, including apparatus used by the Curies and Pierre=s lecture notes from the School of Physics & Chemistry in Paris. Photographs of what is left of historic sites, such as the laboratory Ashed@ where polonium and radium were discovered in 1898, are shown as well as 19th century views.

The 1898 report in the French journal Comptes Rendus describing the discovery of radium was under the names of three authors: Marie & Pierre Curie and G. Bemont. Bemont then disappears! Who was he? The mystery was only really solved in 1997. Also, why did the French Academy of Sciences want corroboration of the discovery before they would publish?

Unique photographs of the stages in the early years of the preparation of radium will be shown: technicians in suits and hats leaning nonchalantly with their elbows on the laboratory bench whilst the radium solution bubbles away over a Bunsen burner. That was in 1904. The alterations in the preparation technique by the mid-1920s are then shown with a picture of Marie Curie in Oolen, Belgium, watching the processing at the Union Minière du Haut Katanga plant.

Early physics experiments with radium are pictured (but not demonstrated!) including the detection of false gems, diagnostic uses with a mouse as the test object, and the use of radium for entertainment at a party: the latter by no less a person than Pierre Curie. What a ALittle Curies@? One answer is found on a French banknote (the photocopying of which nearly landed an American radiologist in an FBI prison!) but there is much more to this story. The start of radiation biology is illustrated by Pierre Curie=s self-inflicted radium burn on his forearm: which is a photograph from a French newspaper. Examples of early medical apparatus are also shown. Marie Curie=s later work is also described, including her visits in the 1920s to the USA to collect one gram of radium for medical purposes, donated by the Women of America.

Bizarre uses of radium and radon are also illustrated: cosmetic creams (the skin erythema was equated to a suntan!), radium impregnated electric blankets, radium baths and the architect=s drawing of a hotel where radon gas (for health!) was pumped into rooms, and finally: atomic soda and atomic perfume!

Educational Objective:

1. Teaching in the history of science