

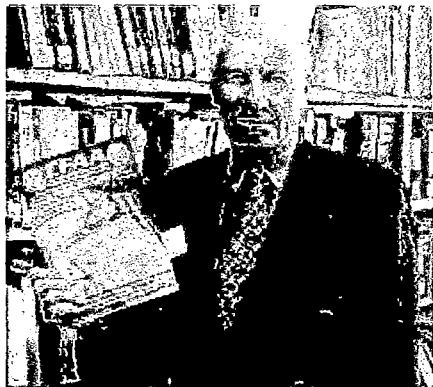
## Ontario medal for firefighter bravery

The overall design of the Ontario Medal for Firefighter Bravery is a cross, one of the traditional symbols of valour, and incorporates a crown, a circle of maple leaves, the Ontario trillium and symbolic flames. It is gold-plated sterling silver with red and white enamel. The colours of the ribbon are red and gold. Each recipient also receives a framed certificate, a miniature of the medal and an undress ribbon.

## Reflections: the history of smoke detection

BY RICHARD MORRIS

CO-CHAIR, FIRE MARSHAL'S PUBLIC FIRE SAFETY COUNCIL



*Dr. Meili*



Richard Morris

Occasionally there are watershed moments in the lives and careers of talented hard-working individuals. Moments when suddenly they see with absolute clarity a 'concept' – the possibility of developing a new product – or using a technology in a manner not before considered. How much more rewarding that feeling of excitement would be, if that technology can be applied to the saving of lives in fire situations.

Such a defining moment occurred in 1941 to a young Swiss scientist named Dr. Ernst Meili. At the time, Dr. Meili was engaged in research work, developing a technique to prevent underground miners from the dangers of toxic and combustible gases. He began experimenting with an ionization chamber, and during this work, he observed that the chamber was capable of not only detecting, but also counting invisible, microscopic particles present in combustion products including smoke. Recognizing the potential benefits of this discovery, his greatest challenge was now to develop an electronic mechanism to initiate and control the process.

With tremendous determination, ingenuity, vision and remarkable skills, Dr. Meili eventually was able to develop a unique cold-cathode tube that could amplify the extremely tiny electrical current produced when the invisible 'products of combustion' entered the sensing chamber. This invention eventually led to the development of the world's first smoke alarm – becoming one of the greatest life-saving inventions of the past century. It eventually gave birth to not only the ionization detector that we use worldwide in Fire Alarm Systems – but also led to the development of single-station, household, smoke alarms that have saved untold lives over the years.

But it was not an easy path!

with most inventions, the prototype was years away from being ready for production. In fact, it was the beginning of years and years of painstaking research and development, endless trials, disappointments, frustrations and delays. The early non-technical tasks included the structuring of a company (which he