

WHAT THE IAEA LABORATORIES BRING TO THE WORLD

I attach great importance to the IAEA's work in making nuclear technology available to developing countries for peaceful purposes. Through our technical cooperation programme, we help countries to improve the health, well-being and prosperity of their people and to respond to developments such as climate change, which affect us all.



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The safeguards laboratories are critical to the IAEA's work to help prevent the spread of nuclear weapons. The nuclear applications laboratories, located in Vienna, Seibersdorf, near Vienna, and Monaco, help Member States tackle fundamental development issues such as food security, water resource management, human health, and the monitoring and

management of environmental radioactivity and pollution.

Five of the eight nuclear applications laboratories in Seibersdorf are dedicated to agriculture and biotechnology and are jointly operated with the Food and Agriculture Organization of the United Nations (FAO). These laboratories specialize in insect pest control, soil and water management and crop nutrition, animal health and production, plant breeding and genetics, as well as food safety. This unique collaboration assists Member States in using nuclear technologies to enhance food production and food security as well as boost farmers' incomes. Our partnership with the FAO, now in its 50th year, is a model of best practice and of the 'One UN' approach.

In addition, the Dosimetry Laboratory works closely with the World Health Organization to help Member States use radiation safely and effectively in medicine, while the Nuclear Science and Instrumentation Laboratory helps countries to develop and use highly specialized instruments and diagnostic tools in various applications of nuclear science and technology.

Finally, the Terrestrial Environment Laboratory helps countries to monitor radiation in the environment, develop emergency response measures and improve the analytical and measurement capabilities of scientists in national laboratories.

I have seen for myself, when visiting dozens of IAEA Member States, the real difference which the work of our laboratories has made to the lives of countless people all over the world. For example, the environmentally friendly sterile insect technique was introduced in Africa with support from the IAEA and the FAO to control the tsetse fly, which transmits a parasitic disease that kills livestock and spreads sleeping sickness among humans. Tsetse flies have been successfully eradicated from the island of Zanzibar using the sterile insect technique and are presently being suppressed in parts of southern Ethiopia. Recently, our scientists have participated in deciphering the genetic code of the tsetse fly, an encouraging breakthrough which will assist future efforts to control one of the most dreadful livestock diseases in sub-Saharan Africa.



IAEA Director General, Yukiya Amano, with a group of Fellows receiving training at IAEA Laboratories in Seibersdorf.

(Photo: Kirstie Hansen, IAEA)



The nuclear applications laboratories in Seibersdorf are a significant asset to the IAEA and its Member States.

(Photo: Dean Calma, IAEA)

IAEA plant breeding and genetics experts have used radiation-induced mutation techniques to develop new varieties of crops that can thrive in unfavourable conditions such as drought and high altitudes. New varieties of wheat resistant to a disease known as wheat stem rust have been distributed to farmers in Kenya.

When the Seibersdorf nuclear applications laboratories celebrated their 50th anniversary in 2012, I decided that it was high time to modernize and upgrade them. In the same year, the IAEA General Conference gave its support and we launched a project known as ReNuAL (Renovation of the Nuclear Applications Laboratories), which aims to establish fit-for-purpose facilities and equipment at Seibersdorf. Good progress is being made and I hope to invite Member States to a ground-breaking ceremony at Seibersdorf before the end of 2014.

The nuclear applications laboratories at Seibersdorf are a significant asset to the IAEA and to our Member States. This edition of the IAEA Bulletin provides an overview of the work of the laboratories in finding scientific and technological solutions that benefit humanity. We hope it will give readers a wider understanding of the broad range of activities undertaken by these important laboratories.

Yukiya Amano, IAEA Director General