

MARC VI Conference participants endorsed a Statement on the 'Current Position of Nuclear Chemistry and Radiochemistry'

The 6th International Conference on Methods and Applications of Radioanalytical Chemistry (MARC VI) was organized by the American Nuclear Society, the American Chemical Society, the Canadian Chemical Society and several US institutes and universities. The Conference was organized from 07–11 April 2003 in Kailua-Kona, Hawaii in co-operation with the IAEA and comprised of 18 oral sessions (3 days in parallel sessions) and two poster sessions of a large variety of different applications (QA/QC and Method validation, Activation Methods and Applications, Software for X and gamma Spectrometry, Environmental Radioactivity, Ultra-sensitive MS and Advanced Methods, Instrumentation for X- and gamma-Spectrometry, Radiotracers and Radiochemical Methods, Actinides in Biological and Environmental Systems, Fuel Cycle and Nuclear Waste, National Security and Non-Proliferation Studies, Neutron and Ion Beams in Biological Research, and Radiopharmaceutical Studies and Nuclear Medicine).

The Conference started Monday morning with the 2003 Hevesy Medal Award presented to Prof. J. J. M. de Goeij, Interfaculty Reactor Institute, Delft University of Technology, The Netherlands. It was followed by a panel discussion on "Manpower Requirements and Educational Needs in Nuclear Sciences" organized by R. Zeisler (chair), Sue Clark, and Susan Parry. This special session highlighted the problems and challenges facing many countries with active nuclear programmes. The panel discussion received substantial interest and resulted in a "Statement" signed by more than 130 participants to be used for further distribution to public and political institutions, including the IAEA through the national representatives, to enhance awareness of the criticality of the situation with regard to radiochemical manpower preservation for future development (see the attached statement).

The venue, the very efficient organisation of the meeting and the attached social programme assured a very fruitful and enjoyable Conference as was expected from previous experience of this most important event for nuclear and radioanalytical Chemists from the international community.

STATEMENT ON THE CURRENT POSITION OF NUCLEAR CHEMISTRY AND RADIOCHEMISTRY

Resolution of the Panel on Manpower Requirements and Education in Nuclear Science,
MARC VI Conference, Kona, Hawaii, April 07–11, 2003

Nuclear Chemistry and Radiochemistry have contributed greatly to the well-being and prosperity of mankind as demonstrated by its applications to human health, *e.g. diagnostic procedures and therapy of various diseases, including cancer and fighting infectious diseases*, to the protection of the environment, *e.g. in radioecological studies, monitoring of pollutants, and understanding local and global climatic changes*, to international security, *e.g. in reduction and control of the spread of nuclear weapons*. These disciplines are also important in the production, handling and consumption of *foods free of bacteria*, assuring compatibility of analytical measurements, the protection of historical and cultural heritage, and as tools in scientific and technological research. Moreover, they contributed to a better understanding of the universe we live in.

Regretfully, Nuclear and Radiochemistry are now becoming neglected disciplines. With many factors contributing to this decline, such as the perceived maturity of the field, the public misconceptions, as well as shortsighted economics, students are choosing other topics. Funds to support scientific institutions working in these disciplines are being drastically cut. It is documented in governmental and industrial manpower studies conducted around the globe that within a few years the need for experts will possibly double. If the current trend is not reversed within one generation or less, the knowledge and expertise accumulated so far in an entire scientific sector through

immense effort and dedication will be lost. Considering the time lines for education, its restoration in the future will be a very expensive endeavor and will be possibly too late to meet the demands of international security and global human and ecological health.

We put this notice out to politicians, citizens and media to use their influence to reverse this trend to the benefit of present and future generations. The undersigned participants of MARC VI specifically emphasize that:

- Nuclear and Radiochemistry must be again considered as an academic discipline per se and NOT as an appendix to nuclear technology, *e.g. nuclear power generation*. The subject is essential to a large number of scientific fields and industry sectors, but has only a limited overlap with nuclear power technology.
- It must be considered that the expertise in Nuclear and Radiochemistry can by no means be maintained by restricted training programs of the nuclear industry. The field is a vital academic discipline that is under permanent development through research and, hence, deserves financial support from public and industrial sectors.
- IAEA, with its commitment to the peaceful use of nuclear science and technology, should, with its Member States, more substantially contribute to the international promotion of all basic and applied aspects of Nuclear and Radiochemistry.