



Contribution ID: 671

Type: **Verbal**

## **Nuclear and Radiochemistry 2nd edition –a textbook published by Elsevier**

*Wednesday, 16 May 2018 11:30 (15 minutes)*

This book is the second edition of Nuclear and Radiochemistry first published in 2012 and aims to provide the reader with a detailed description of the basic principles and applications of nuclear and radiochemistry. Its content is based on the authors' more than 50 and 25 years of experience, respectively, as professors of nuclear and radiochemistry at both the B.Sc. and M.Sc. levels in the Imre Lajos Isotope Laboratory of the Department of Physical Chemistry at the University of Debrecen, Hungary. The second edition is improved and complemented, especially by some novel aspects of nuclear chemistry applications, mainly in industry and nuclear medicine.

Although the book contains all modern aspects of nuclear and radiochemistry, it still has a characteristic local flavor. Special attention is paid to the thermodynamics of radioisotope tracer methods and to the very diluted systems (carrier-free radioactive isotopes), to the principles of chemical processes with unsealed radioactive sources, and to the physical and mathematical aspects of radiochemistry. This approach originates from the first professor of the Isotope Laboratory, Lajos Imre, who himself was Otto Hahn's disciple and coworker.

The 480 pages of the book is divided into 14 chapters. Chapters 1–6 discuss the basic concepts of nuclear and radiochemistry and Chapters 7–14 deal with the applications of radioactivity and nuclear processes. There are separate chapters dedicated to the main branches of modern radiochemistry: nuclear medicine and nuclear power plants, including the problems of the disposal of nuclear wastes. One chapter (Chapter 10) deals with nuclear analysis (both bulk and surface analyses), including the analytical methods based on the interactions of radiation with matter.

**Acknowledgement:** The 2nd edition was supported by the EU and co-financed by the European Regional Development Fund under the project GINOP-2.3.2-15-2016-00008 and by the Hungarian National Research, Development, and Innovation Office (NKFIH K 120265).

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**Session Classification:** EDU 1

**Track Classification:** Education