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RADIOCHEMISTRY IN EUROPE NEWSLETTER

Issue 28 – July 2004

EDITORIAL COMMENT

Welcome to the twenty-eighth Newsletter for Radiochemists in Europe under the sponsorship of the Federation of European Chemical Societies (FECS).

I do not apologise for the fact that this Editorial Comment is similar to last time as I received minimal response to my requests for articles etc. The newsletter of the FECS WP on Nuclear and Radiochemistry is for everyone as its aims below indicate. It is important therefore to remind everyone that it is here to communicate with all radiochemists in Europe. This should be a two way process so please let the WP have your comments, plans etc for publishing.

This newsletter is established on web page (<http://www.rsc.org/pdf/andiv/europenews.pdf>). The newsletter is perhaps more easily accessed through the website of The WP on Nuclear and Radiochemistry of FECS, whose URL is now www.fecs-chemistry.org/nuclear. This website has other useful connections to "Future Events" called nuclear and radiochemical activities in Europe, and the Homepage of the Radiochemistry Group of RSC. If any other group would like their website to be linked, please send me the details. With regard to the Future Events I am trying to include conferences in other disciplines which

have or could have a section involving nuclear and radiochemistry. This is in keeping with the FECS WP's aim to involve scientists from a wide range of disciplines and topic areas.

The WP is interested in expanding an existing database on training courses in radiochemistry. Do you think that such a database should be widely available? Please let us have your comments and send details of any courses that you run. (See Radiochemistry Society item in "News from the Internet").

This is your newsletter for radiochemists in Europe. Articles, reports on meetings, laboratory profiles, courses, positions vacant, redundant equipment and any other item you feel may be of interest to other radiochemists are still urgently required. Also the early announcement of dates for meetings and conferences is important to avoid the possibility of organising two at the same time on similar topics within Europe.

Providing that information is available I intend to compile this newsletter 4 times per year in March, June, September, and December/January. Please send information in good time for inclusion that is by the end of the month prior to publication. **Editor: Dr. Tony Ware (e-mail: tonyware@compuserve.com)**

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•EUROPEAN RADIOCHEMISTS ASSOCIATION.

Aims and Objectives

The objective of the association is to extend and improve communications between radiochemists in Europe through a newsletter. This will be achieved through aims, which include

1. Establishing a liaison person within each country (or group).
2. Exchanging with each of the other liaison persons details of the activities of their own group during the current and subsequent years,
3. Setting up a diary of relevant International Events to avoid duplication of dates and hence improve attendance
4. Exchanging details of specialist equipment, facilities and methodology.

•FEDERATION OF EUROPEAN CHEMICAL SOCIETIES

2004 FECS Lecture

Professor Andreas Manz will deliver the 2004 FECS Lecture '*Continuous-flow Bioassays, Separations and Isoelectric Focusing on Chip*' during Euroanalysis XIII, European Conference on Analytical Chemistry, in Salamanca, Spain, on 5-10 September 2004.

The Euroanalysis Conference, one of a series of FECS Conferences, promoted by the FECS Division of Analytical Chemistry, will bring together chemists from industry and academia and provide an international forum for the presentation and discussion of a broad spectrum of analytical topics under the banner "The Role of Analytical Chemistry in the Protection of the Citizens", highly interesting for the community of analytical sciences. Further information is on the web at www.euroanalysis13.com

Andreas Manz is Head of ISAS - Institute for Analytical Sciences, Dortmund and Berlin, Germany, and professor at the University of Dortmund.

Andreas Manz is one of the pioneers in microchip technology used for chemical applications. The Manz Lab focuses on novel applications of chip technology in analytical chemistry and the life sciences. He has been involved in the development of high-speed analysers based on capillary electrophoresis, liquid chromatography and flow injection analysis. Much of his research has been carried out with his group at Ciba-Geigy Ltd. in Basel, Switzerland and at Imperial College in London, UK. Further details of his work are on the web at www.ansci.de

The FECS Lecture serves to enhance the image of European chemistry and to promote scientific cooperation in Europe. It rotates among FECS member societies and is delivered at a scientific event outside the lecturer's own country. The Lecturer is given a Swarovski Crystal Owl, a gift from Swarovski Austria, to commemorate the event.

WP on Nuclear and Radiochemistry

The latest plans for the FECS European Chemistry Congress will be discussed at the FECS Executive in Bucharest in October. The WP has submitted its plan for a seminar on "Radiochemistry in the 21st Century" and a presentation on training for radiochemists. The proposal is that the seminar consists of the four following topics:

Chemistry of the Superheavy Elements, Advances in Radioecology, Radiopharmaceuticals, and Chemistry of the Nuclear Fuel Cycle

In addition, we suggest to include one more contribution that would cover training aspects and be entitled "Teaching of nuclear and radiochemistry in the modern age". A decision on whether the seminar will be accepted will be made shortly in time for the FECS Executive Meeting in October. Dr Jan John, Technical University of Prague, represents the WP on the Advisory Committee for the Congress.

The WP will meet on 30th August during NRC6 in Aachen. If you have any views on the future of radiochemistry in Europe and the role of the WP please contact a representative on the WP. The representatives on the WP nominated by their National Chemical Society are:

Dr Mauro Bonardi, mauro.bonardi@miinf.it

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Further information on the WP and minutes of previous meetings can be found on the website at www.fecs-chemistry.org/nuclear

Contact: Editor Dr Tony Ware (e-mail: tonyware@compuserve.com)

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•LABORATORY PROFILE

Nuclear Training Services Ltd., UK

Nuclear training Services is run by Dr Gordon Gilmore, co-author of Practical Gamma-Ray Spectrometry, Wiley 1995.

This year so far they have run the following series of courses.

30th April 2004 - One Day - Neutron Detection and Measurement

4th May 2004 - One Day - Introductory Gamma-Ray Spectrometry

5th-6th May 2004 - Two Day - Practical Gamma-Ray Spectrometry

4th-6th May 2004 - Three Day - Combined Practical Gamma-Ray Spectrometry

7th May 2004 - One Day - Uncertainty Budget Workshop

The following dates are planned for July.

26th July 2004 - One Day - Neutron Detection and Measurement

27th July 2004 - One Day - Introductory Gamma-Ray Spectrometry

28-29th July 2004 - Two Day - Practical Gamma-Ray Spectrometry

27-29th July 2004 - Three Day - Combined Practical Gamma-Ray Spectrometry

30th July 2004 - One Day - Uncertainty Budget Workshop

Full details of these courses and an online booking form visit their website at www.nucleartraining.co.uk

In addition to these courses Nuclear Training Services also operate on line courses in "Practical Gamma-Ray Spectrometry", "Introductory Gamma-Ray Spectrometry" and "Introduction to Radioactivity". Full details can be found at www.online.nucleartraining.co.uk

For more information about these courses contact Dr. Gordon Gilmore, Nuclear Training Services Ltd., 15 Lindfield Close, Moore, Warrington, WA4 6UG, UK,

Tel+Fax: +44 (0) 1925-740769 Mobile: 07769 748431

<http://www.nucleartraining.co.uk>

Editor: If you would like your laboratory research or training group to be profiled, please contact editor with draft script.

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· CONFERENCE REPORTS

No reports have been received since the last newsletter. Please provide information particularly of publication of any proceedings.

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· CONFERENCE AND WORKSHOP DETAILS

6th International Conference on Nuclear and Radiochemistry (NRC-6)

The sixth conference in this series will be held from Aug 29 - Sep 3 2004 in Aachen, Germany.

Deadline for abstracts is now past and decisions on final program made. It is not too late to decide to attend.

E-mail: nrc6@fz-juelich.de

Website: <http://www.fz-juelich.de/NRC6/>

Physical and Chemical Aspects of PET Radiopharmaceuticals

A Regional Work on PET will be held on September 19-21, 2004, Bratislava, Slovakia at the Slovak Institute of Metrology (SMU). The Workshop will cover:-

Cyclotron and Target Constructions

Target Chemistry

Radiopharmaceuticals Synthesis

Quality Control of Radiopharmaceuticals

GLP-GMP Design

PET Imaging

The Workshop will coincide with the opening of the PET Centre of the Cyclotron Centre of the Slovak Republic.

A Satellite Seminar on "Ion-Beam Applications" will include, ion sources for cyclotrons, high energy ion-beam analysis and neutron production.

Application should be sent to e-mail: kufcakova@fns.uniba.sk or fax: 00421 2 602 96 705

Deadline for registration and fee payment September 6, 2004

NAMLS-8

The Eighth International Conference on Nuclear Analytical Methods in the Life Sciences (NAMLS-8) will take place in Rio de Janeiro, Brazil, from 17-22 April 2005.

Conference website: www.cena.usp.br/namls8

Conference e-mail: namls8@cena.usp.br

General Chair: Elisabete De Nadai Fernandes, CENA-USP, Piracicaba, Brazil

Deadline for abstracts: 2004 November 1

Please visit the above-mentioned website for pre-registration and for additional information about the conference. This announcement was issued on behalf of the NAMLS International Committee (NAMLS-IC), which is the convener of the NAMLS series of conferences.

(Jan Kucera, NAMLS-IC Chair & Robert Parr, NAMLS-IC Secretary Website: <http://members.aon.at/namls/>)

NAA

Consideration is being given to hold a workshop on NAA, Highrate-gamma-spectroscopy and TXRF in Vienna next Year. The local committee will be led by Dr Max Bichler. Watch this space for further details. (Max Bichler e-mail: bichler@ati.ac.at)

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•NEWS FROM THE INTERNET

Chemical Thermodynamics of U, Np, Pu, Am and Tc

Following the publication in 2003 of the "Update on the Chemical Thermodynamics of Uranium, Neptunium, Plutonium, Americium and Technetium" there have been many requests for copies of the 1992 book on Uranium and the 1995 book on Americium, which are no longer available at bookshops. The main reason for the continued need for the 1992 and 1995 books is that the 2003 "Update" does not contain the rationale behind those data selections that have not been changed: these are only found in the original publications.

To assist the thermochemical database user community, the NEA has reprinted a limited number of copies of the 1992 book on Uranium and the 1995 book on Americium. These are available free on request. If you are interested in receiving a copy of any of them, please follow the instructions in the attached flyers. Since the number of copies reprinted is limited and the contents of the reprinted books are exactly the same as those in the original books, please kindly give preference to those colleagues who were not able to purchase the original books. If you already have a copy of these books, please help us reach a larger audience by forwarding this email to colleagues who could potentially be interested. It is important to note that the currently NEA TDB selected data for U, Np, Pu, Am and Tc are given in the 2003 Update. The earlier books on U (1992), Am (1995), Tc (1999) and Np/Pu (2001) contain selected value tables that are superseded in part. As usual, the updated database (including the new files for SIT interaction parameters) can be downloaded from our web pages:

<http://www.nea.fr/html/dbtdb/tdbdata/tdbdata.html>

Further information on the complete suite of NEA TDB publications is available from:

<http://www.nea.fr/html/dbtdb/info/publications/welcome.html>

(Contact e-mail: Federico.MOMPEAN@oecd.org)

Coordinated Research Project

Matthias Rossbach would like to bring to your attention a new Coordinated Research Project (CRP) on 'art object identification using nuclear techniques' organised by the IAEA, Industrial Applications and Chemistry Section, as described below.

The proposed CRP is aimed to explore new fields of application for nuclear analytical techniques in art and archaeology. It will help to foster collaboration between museum conservators and analytical researchers. The dissemination of information on applications of advanced analytical techniques to art objects will stimulate the use of these techniques in developing Member States and help in conservation and recovery of national heritage.

Specific Research Objectives:

The specific objectives may vary from country to country subject to the research priorities defined by the national teams. However, according to the overall objectives of this CRP they will add to the preservation and recognition of national heritage and may comprise some of the following:

Identification of authenticity of certain groups of artifacts being of particular national importance through chemical analysis.

Clarify authorship of valuable paintings, identify provenance and age of museum specimen.

Providing base line data for law enforcement to identify fraud.

Contribute information for the identification of seized illegally traded materials.

Assist conservators in restoration and preservation of cultural heritage.

Identify suitable methods and recommend procedures for chemical identification of art object.

Please consider it and apply with a proposal to the IAEA Research Contract Section, attn. Ms. Th. Benson (e-mail: t.benson@iaea.org) in hard copy, signed, to Research Contracts Administration Section, International Atomic Energy Agency, Vienna International Centre, Wagramer Strasse 5, P.O. Box 100, A-1400 Vienna, Austria before July 30, 2004. E-mail: crp.research@iaea.

Please use the forms available at <http://www-crp.iaea.org/html/forms.html> for your application.

(M. Rossbach, e-mail:m.rossbach@iaea.org)

Radioactivity, Ionising Radiation, and Nuclear Energy

By Jiri Hala and James D. Navratil

ISBN 80-7302-053-X, Publisher: Konvoj, Brno, Czech Republic, 2003

(Sold in North, Central and South America by Litarvan Literature, 102 Grand Oak Circle, Pendleton SC 29670: \$49.95 plus \$10.00 shipping and handling.)

(Sold elsewhere by Konvoj, spol. s r.o. (Ltd.), Berkova 22, Brno, CZ-612 00, Czech Republic; email:konvoj@konvoj.cz.)

This textbook focuses on basic information about radioactivity, nuclear reactions, properties and measurement of ionizing radiation, nuclear energy and technology, and their environmental aspects. The core of the book proceeds from the authors' lectures in nuclear chemistry and environmental radioactivity at the School of Science, Masaryk University, Brno, Czech Republic, and in actinide and radiochemistry at Clemson University, Anderson, South Carolina.

The authors' original intention was to write a basic textbook appropriate for introductory courses related to the science of radioactivity, ionizing radiation, and nuclear technology. While working on the manuscript it was felt that topics related to nuclear energy, biological risk of ionizing radiation for man, and environmental aspects of radioactivity and nuclear energy, including management of radioactive wastes, continue to be popular among a wider public. Therefore, the respective sections have been expanded to provide information not only to university students, but also to a wider readership with answers to often asked topical questions that continue to be the target of frequently unjustified criticism from opponents of nuclear and radiation technologies.

The subjects covered in this book have their foundations in a blend of physics, biology, chemistry and engineering. In relation to radiation and nuclear technologies, economics, psychology and politics take their share of credit as well. Having this in mind, and trying to cover as many topics as possible with numerous applications of radioactivity and ionizing radiation, and striving not to produce too extensive of text, some subjects had to be discussed in a simplified form. For the same reason, only a few, arbitrarily selected examples out of many were used to illustrate some facts and methods, and only simple mathematics and accompanying theory necessary for understanding the principles were utilized. The reader will find more information in the sources listed in the "Recommended Reading" sections at the end of each chapter and in electronic information resources listed in Appendix F. Emphasis was laid on more recent literature, predominantly review articles published in English. The authors adhered to the SI system of units, and some useful conversion factors are listed in Appendix G. Appendix E provides names and abbreviations of institutions and organizations mentioned in the textbook.

(James Navratil. E-mail: Nav@clemson.edu)

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· AND FINALLY

Please send information for inclusion in future issues to your Liaison Person or myself Dr Tony Ware, Avoncastle, South Lane, Sutton Valence, Maidstone, Kent ME17 3AZ, UK. Tel: +44 (0)1622 842627, e-mail:tonyware@compuserve.com

IMPORTANT PLEASE send me your e-mail address so that I can inform you when websites have been updated and any other news of immediate interest.

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