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RADIOCHEMISTRY IN EUROPE NEWSLETTER

Issue 20 – December 2001

EDITORIAL COMMENT

Welcome to the twentieth Newsletter for Radiochemists in Europe now under the sponsorship of the Federation of European Chemical Societies (FECS). At present the Radiochemical Methods Group of the Analytical Division of the Royal Society of Chemistry (UK) is acting as the secretariat and covering the expenses of me as Secretary/Chairman hence the address at the heading of this newsletter along with the logo for the FECS Working Party.

May I take this opportunity to be one of the first to "Wish you the Compliments of the Season and every Success in the Year 2002". By now I hope that many of you are reading this newsletter from our web page (<http://www.rsc.org/pdf/andiv/europenews.pdf>) which can be accessed direct. The newsletter is also available through the website of The WP on Nuclear and Radiochemistry of FECS, namely <http://www.chemsoc.org/networks/enc/fecs/fecsradiochemistry.htm> This website now established has connections to "Future Events" called nuclear and radiochemical activities in Europe, IUPAC Commission on Radiochemistry and Nuclear Techniques and the Homepage of the Radiochemical Methods Group of RSC. The link with the Radiochemical Methods Group, <http://www.rsc.org/lap/rsccom/dab/ana011.htm> will also allow you to gain access to the website for the next

International Conference on Environmental Radiochemical Analysis.

The Future Events now appears in HTML format and can be found direct at <http://www.rsc.org/lap/rsccom/dab/ana011events.htm> or through the FECS WP or RCMG Homepage. (This page on the website is being updated each month).

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 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. Articles in this newsletter will indicate how others are investing effort and money in improving the education of radiochemists and setting up databases for radioanalytical facilities.

Providing that information is available I intend to compile this newsletter 4 times per year in March, June, October 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

The web page for the Working Party on Nuclear and Radiochemistry has now been established. You can see it on <http://www.chemsoc.org/networks/enc/fecs/fecsradiochemistry.htm>. It is currently linked to the Royal Society of Chemistry webpages for the Newsletter and Future Events. It also has links to the IUPAC Commission on Radiochemistry and Nuclear Techniques and will shortly have a connection to IAEA Future Events.

The WP is progressing on its activity to review training courses for radiochemists in Europe and will be preparing a report later this year for discussion by the WP at its meeting in 2002. It is expected that the meeting will be held during the ERA2002 in Kent, UK.

Any comments on the topic of training of radiochemists should be sent to Dr Tony Ware. In the USA the DOE has given money to aid universities in setting up and improving training courses. Can we do similar in Europe? If so who should fund the activity?

Training courses can only be set up if there is a need for training in radiochemical skills. It will be necessary to establish what sort of skills are required and how many need to be trained each year. These and other topics will be discussed within the WP. Any ideas, suggestions or comments can be passed to myself or any member of the WP.

(e-mail: tonyware@compuserve.com)

· INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY (IUPAC)

As you are probably aware the Commissions within IUPAC will cease to exist at the end of 2001. As such there will no longer be a Commission on Radiochemistry and Nuclear Techniques. The existing members are being retained as Fellows of the IUPAC. Future work will take place through Task Groups; topics for projects will be submitted to Divisions for approval. Please note that anyone can suggest a topic. A Project Submission Form can be obtained from the IUPAC Secretariat at secretariat@iupac.org. The Relevant IUPAC Bodies to whom submissions are directed are:- Divisions of Physical, Inorganic, Organic and Biomolecular, Macromolecular, Analytical,

Environmental and Human Health, CHEMRAWN, Chemistry and Industry and Teaching of Chemistry. Projects will be given a budget to aid in the work. At its Congress in Brisbane the IUPAC answered the question "What is an IUPAC Project?" in the following way. One that addresses an issue of significance to the global chemistry community in the areas of: NOMENCLATURE, Terminology and Symbols, Validated and compiled data, Standard methods and procedures, Education and the public understanding of chemistry and Any subject requiring the development of a consensus among chemists worldwide.

· CONFERENCE AND WORKSHOP DETAILS

9th International Symposium on Environmental Radiochemical Analysis, 17-20 Sept 2002, Kent, England, UK. As indicated earlier this symposium has now received sponsorship from FECS. This conference is the 9th in a series of well attended Symposia and will concentrate on the details of analytical procedures. The organisers expect it to be complimentary to the Monaco Conference and are in communication with those organisers to minimise overlap. Further details will appear on the symposium website <http://www.rsc.org/lap/confs/radiochem2002.htm>
Contact: **Mrs C Pickering, Department of Chemistry, Loughborough University, Loughborough, Leics. LE11 3TU. Tel and Fax: 01509 222750 Email: C.Pickering@lboro.ac.uk**

IAEA initiative to assess the current situation in training and application of Radiochemistry

An expert meeting on the current situation of Radiochemistry in Member States of the IAEA will be organized to elaborate future activities and initiatives to strengthen radiochemical applications in academia, research and industries. In view of the current development in western countries an appreciable loss of knowledge is expected in the field due to ageing of experts, lack of students and a general decline in public perception. Continuous demand of expertise from the Nuclear Industry and newly emerging interest in radiochemical applications from the developing world, however, suggest that a preservation of radiochemical knowledge, new training facilities and job opportunities for young scientists should be stimulated. The Agency has taken up this issue and, in a first step an evaluation of the needs and challenges in Radiochemistry will be undertaken. Recommendations on how to improve the situation, what kinds of activities are needed to support existing and stimulate new University curricula, training facilities, and commercial applications are to be expected from the experts.

A report with the detailed results of the survey will be issued describing the situation in Latin America, East and West Asia, Africa, Europe and North America. Opportunities to link existing RC facilities with Institutions requesting support might emerge and stimulate mutual exchange and encourage further applications of RC methods. Training courses covering certain fields of applications could be developed and offered on demand. Fellowships for training in RC will be supported and expert services can be made available to establish new RC facilities.

Any additional information you could provide in support of this subject would be highly appreciated. Please send your comments to the Technical Officer in charge: **M. Rossbach, Industrial Applications & Chemistry Section, IAEA Vienna.**
e-mail: M.Rossbach@IAEA.ORG

Sixth International Conference on Methods and Applications of Radioanalytical Chemistry (MARCVI), April 7-11, 2003, Kailua-Kona, Hawai'i, USA. Technical Program Contacts: Roy Filby, rfilby@wsu.edu or Sam Glover, glover@wsu.edu. Informational web site
<http://www.wsu.edu/~rfiley/marc6.htm> A Call-for-Papers will be issued in late 2001 or early 2002.

11th International Congress of the International Radiation Protection Association will take place in Madrid (23-28 May) Year 2004. First announcement can be found on the web page www.irpa11.com Further details will follow. Catalina Gascó Leonarte, CIEMAT (DIAE) Ed.3A, Avda de la Complutense 22, Madrid 28040. Tel: 34-1-3466568
FAX: 34-1-3466121 E-mail: CATA@CIEMAT.ES

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•NEWS FROM THE INTERNET

A CNRS position A CNRS position CR2 is open in the radiochemistry group of the Institut de Physique Nucléaire at Orsay. The Nature and scope of the job is the Speciation of actinides and fission products - nuclear waste management.

This project concerns the speciation of Tc, Mo, Se, Zr, and Sn, their interactions with some actinides of which uranium. The methods used in this frame are mainly electrochemistry (voltampérometry, inpendencemetrie, etc.), capillary electrophoresis and spectroscopy (fluorescence, SAX). The aim of this project concerns the improvement of extraction and radionuclides separation procedures (PUREX, environmental). We need to improve the chemical properties knowledge of these ions in aqueous media.

For further information candidates can contact: Mme Solange HUBERT, Institut de Physique Nucléaire, RADIOCHIMIE, 91406-ORSAY, Tel: 01-6915-7344 ou 01-6915-7157. E-mail; shubert@ipno.in2p3.fr

PhD in Physics, Astrophysics and Applied Physics (Milan University, Milan Bicocca University and Catholic University "Sacro Cuore")

The school is open to students holding a degree in Physics or equivalent. The Ph.D. degree in Physics is awarded after the successful completion of a three-year study and research program. The School is based on 13 Curricula, which include Nuclear Physics, Health Physics, Hearth and Environment Physics and Applied Nuclear Physics.

The Study and Research programme consists of a first year mainly concerned on course work: the students have to follow successfully 4 courses of lectures and have to start their research activity. The second year is dedicated both to the study activity and research training; the students have to follow 2 courses of lectures and must be strongly engaged in the research activity. The third year is completely devoted to the research activity; the students have to produce an original search and have to write a research thesis. Every year the activity of the students is judged by the "Teachers College" (Collegio dei Docenti) and only the successful students can proceed in the School. For

further information contact dept of Physics, Via Celoria 16, I-20133 Milano, Italy Tel:02-2392740 Fax:02-2392208
e-mail: zanzani@fisica.unimi.it

Swedish Defence Research Agency (FOI).

Ulrika Nygren is happy to announce that several job openings are now available at the Swedish Defence Research Agency (FOI). They are, amongst others, looking for a radio chemist and a radio physicist/radio meterologist to assist in development of analytical techniques in the lab and for field applications, plus a senior radio chemist to be responsible for some of the research being performed in this area. More information can be found at <http://www.foi.se>. Swedish citizenship is required to receive a permanent position at FOI. Contact: Ulrika Nygren, FOI, NBC Defence Division, Department of NBC Analysis, SE - 90182 Umeå, SWEDEN. Tel: +46 90 106754 Fax: +46 90 106800 e-mail: ulrika.nygren@foi.se

General Engineering Laboratories (GEL) is currently seeking to fill an opening for a Senior Scientist to support our radiochemistry laboratories in Charleston, South Carolina (USA). GEL has a full service radiochemistry laboratory specializing in the analysis of waste, environmental and bioassay matrices. The senior scientist supports the method development, training, and process improvement operations of the radiochemistry laboratory. Proficiency in all analytical areas of operations is required, including sample preparation, analytical separations and final data acquisition and calculations. Problem solving skills relating to technique, methods or instrumentation in a production environment are essential for the successful applicant. The senior chemist will provide technical support to the laboratory in writing and reviewing standard operating procedures and conducting independent research for method development and non-routine operations. The senior chemist will train laboratory personnel in proper techniques and will serve as a mentor in developing others in their careers. Interested applicants can send a resume to: General Engineering Laboratories, Attention: James

Westmoreland, P.O. Box 30712, Charleston, SC 29417, USA. e-mail: jbw@gel.com website: www.gel.com

Postdoctoral work at IRMM

There is an opening for a postdoctoral research fellow or a PhD fellow at IRMM (Institute for Reference Materials and Measurements) in Geel, Belgium. The position is in the Radionuclide Metrology Sector and involves performing ultra low-level gamma-ray spectrometry in an underground laboratory (HADES), which is 225 m deep.

The fellow will take part in one or several of the following tasks:

- +Measurements of environmental samples, e.g. U and Ra in water
- +Low-level neutron dosimetry using activation,
- + Design of new and improved measurement systems for low-level measurements,
- + Intercomparisons to determine the accuracy of chemical and physical analytical approaches.
- + Detection of clandestine nuclear activities (swipe samples from nuclear installations)
- + Studies of background components and techniques to reduce the background further.

The candidate should be a physicist or chemist with experience in gamma-ray spectrometry.

Persons to contact: Dietmar Reher, Sector Head, Radionuclide Metrology Tel.: +32-14-571263

e-mail: dietmar.reher@irmm.jrc.be

Mikael Hult, Responsible for ultra low-level gamma-ray spectrometry Tel.: +32-14-571269 Fax: +32-14-584273

e-mail: mikael.hult@irmm.jrc.be

Address: Retieseweg, B-2440 Geel, Belgium

The Department of Oceanography at Florida State University has Graduate Research Assistantships available immediately for MS and Ph.D. candidates to pursue research on use of natural radium isotopes and radon to trace groundwater flow into the coastal zone. We are particularly interested in those with a BS in chemistry or an environmental science and some experience in radiochemistry.

For more information, please contact: **Bill Burnett, Environmental Radioactivity Measurement Facility, Department of Oceanography, Tallahassee, Florida 32306; Tel: +850-644-6703; Fax; +850-644-2581; email: wburnett@mailier.fsu.edu**

Radioactive Source exchange

I would like to draw your attention to the Radioactive Source Exchange database website that has just been launched at: - <http://www.sourceexchange.org>

It is operated by JF Computing Services in association with British Instrument Consultants as a service to the

scientific community. Its aim is to enable organisations possessing radioactive sources that are no longer required to make contact with other organisations with a requirement for a similar source. Organisations looking for a source may also post details of the type of source they are looking for. Guest users may list sources that are available or wanted. Registered users are permitted to obtain full details of a listed source, or add sources to the lists. This information was placed on e-mail by **Jim Fitzgerald** who says that if you have any problem in accessing the database web page, you can try the site:- www.jimfitz.co.uk then select the Radioactive Source Exchange from there.

Opening for radiochemist /inorganic analyst

Lawrence Livermore National Laboratory has an opening for an inorganic analytical chemist to support site environmental monitoring. The position involves the determination of tritium, actinides, and fission products in environmental and wastewater samples. On a routine basis, the analyst will prepare and analyse complex environmental samples for low concentrations of radionuclides; and acquire, reduce, interpret and report complex radioanalytical data. Opportunities exist for developing new and enhancing existing analytical methods and instrumentation; and for providing alternative approaches to non-routine radiochemical analyses.

The position requires a BS in Analytical Chemistry, or equivalent experience. We prefer a candidate with demonstrated experience in one or more of the following areas: preparation and analysis of environmental samples for radionuclides and priority inorganic pollutants; proficiency in alpha spectrometry, LSC, proportional counting, gamma spectroscopy, ICP-OES, ICP-MS, or GFAA; proficiency in radiochemistry or metals separation chemistry; working in a compliance-related analytical laboratory setting. A job application form is available at the LLNL jobs website. The posting is CH-2145, and may be found by searching Current Openings under Scientific and Engineering job class or using the web address below. LLNL jobs website: <http://www.llnl.gov/jobsCH-2145> posting:

<http://www.llnl.gov/jobs/postings.jsp?jobID=9240>

Letters of interest and CV's may also be sent directly to the address below: Bradley K. Esser, L-231, Analytical & Nuclear Chemistry Division, Chemistry & Material Science Directorate, Lawrence Livermore National Laboratory, Livermore, CA 94550-0808, USA Email: bkesser@llnl.gov

Bryan B. Bandong email: bandong1@llnl.gov

•NEWS FROM LITERATURE

Report from Commerce Business Daily

The DOE Office of Nuclear Energy, Science and Technology (NE) has established the "Radiochemistry Education Award Program" (REAP) to provide matching funds to universities interested in improving the educational aspects of their

radiochemistry education programs. The first series of Grants under this program were made to three universities in 1999. This new series of Grants is intended primarily to support programs at additional universities; however, current recipients are eligible to apply for continuation Grants. Awards which have been set at a maximum of \$100,000 a year for a three-year period, can be used to support faculty salaries, postdoctoral students, graduate students, laboratory and equipment improvements, coursework and any suggested academic program enhancements in working with DOE facilities in radiochemical areas. In completing the application for this award, applicants need to be familiar with the following objectives:

- A. Proposed programs should support educational activities at the graduate-level.
- B. Special consideration should be given to programs that encourage interactions with ongoing DOE radiochemistry activities. In particular, interactions (e.g., summer or co-operative programs, internships), that include hands-on participation in radiochemistry activities at DOE facilities or being performed by projects supported by DOE are encouraged.
- C. Interdisciplinary programs, which include combining science programs with engineering programs, are strongly encouraged. In particular, Chemistry Departments working with Nuclear Engineering programs are encouraged to apply for participation in this program.
- D. The type of support requested should be designed to enhance the long-term viability of the radiochemistry program at the Host University.

An optimized mix among faculty, student and institutional support is encouraged.

LinkURL: <http://www.scuref.org> **E-mail:** jspencer1@mindspring.com

Second revised Edition of "Nuclear and Radiochemistry"

A very relevant book has been printed recently in a second revised Edition: Karl Heinrich Lieser: Nuclear and Radiochemistry, Fundamentals and Applications, Wiley, Berlin, 2001. ISBN3-527-30317-0

Abstracts from the NAMLS Newsletter

IAEA Database on Nuclear Analytical Facilities

The Section of Nutritional and Health Related Environmental Studies of the IAEA is compiling a database on existing nuclear analytical facilities involved in activities in the area of food, nutrition and the environment. Many members of the NAMLS community have already received information on this project directly from the IAEA, and have been invited to contribute. In case you do not yet know about this project, and would like to contribute, the questionnaire may be downloaded from the NAMLS website (navigate to NAMLS Newsletters, and follow the link).

Contributors will receive a copy of this database as soon as it has been compiled.

IAEA Contact Person: Andreas Bleise (a.bleise@iaea.org)

HUMPHRY BOWEN (1929-2001)

The NAMLS community - particularly its older members who may have known him personally - will be saddened by the news of the death of Humphry Bowen on 9 August 2001 at the age of 72. He passed away suddenly but peacefully in his home county of Dorset, England. Humphry Bowen contributed significantly to the early development and use of activation analysis in the UK. His 1963 book on Radioactivation Analysis, co-authored by Derek Gibbons, was the very first textbook in this field. The NAMLS community and other scientists will also remember him involved in trace element analytical chemistry, as the producer of the world's first internationally available biological reference material for trace elements - widely known around the world simply as "Bowen's kale".

Many readers of this newsletter may not know about another scientific field to which he made unique contributions. Just last December, Humphry Bowen published his magnum opus - an ambitious book on "The Flora of Dorset", where he had lived since 1989. In line with the most exhaustive practice, this set out to document not only every plant currently to be found in the county, but also every one that has ever grown there - as well as ferns, mosses, lichens, fungi and algae. His obituary, as published by The Times on 28 August 2001, may be accessed online at:

<http://www.thetimes.co.uk/article/0,,60-2001296097,00.html>

Editorial Comment. Humphry Bowen is warmly remembered as a founder member and chairman of the Radiochemical Methods Group of the Royal Society of Chemistry.

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· **AND FINALLY** Items for inclusion in future issues of the Radiochemistry in Europe Newsletter are welcome and in fact essential to the development of the newsletter.

Please send information 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.

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