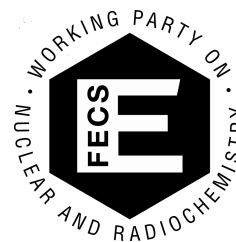


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RADIOCHEMISTRY IN EUROPE NEWSLETTER

Issue 21 – March 2002

EDITORIAL COMMENT

Welcome to the twenty-first 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.

This newsletter is now firmly established on web page (<http://www.rsc.org/pdf/andiv/europenews.pdf>). 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/fecsradioc hemistry.htm> This website has other useful connections to "Future Events" called nuclear and radiochemical activities in Europe, 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.

It now appears that many in Europe and world-wide have accepted that there will be a shortage in radio and

nuclear chemistry expertise in the future. Besides the FECS WP on Nuclear and Radiochemistry discussing training needs in Europe, a European Nuclear Engineering Network has been established. Details of the latter and progress on the IAEA review is given in later articles. It seems evident that any data collected via the various surveys should be available to all to minimise effort.

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.

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•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

The WP is progressing on its activity to review training courses and conferences for radiochemists in Europe. These will be discussed by the WP at its meeting on April 14, 2002 before the 14th Radiochemical Conference in Mariánské Lázně, Czech Republic. Any comments on the topic of training of radiochemists should be sent to Dr Tony Ware or your national WP member.

Training courses will 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. The UK is undertaking a survey on the requirement for radiochemists in the UK. Maybe other countries should also perform surveys. The IAEA as indicated in the last newsletter, are also carrying out a review and recently I have been informed of the existence of a European Nuclear Engineering Network. More on these will be found in later articles. 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)

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· IAEA (International Atomic Energy Agency) CONSULTANTS MEETING

In the last newsletter an outline was given of the IAEA initiative to assess the current situation in training and application of Radiochemistry. This has now been extended to give details of a Consultants Meeting planned to be held prior to the 7th International

Conference on Nuclear Analytical Methods in the Life Sciences (NAMLS-7) to be held 16-21 June, 2002. The following Information Sheet has been circulated by IAEA.

Information Sheet

Background situation analysis:

In Europe and the United States a gradual decrease of teaching and training opportunities in Radiochemistry is observed since more than two decades. Due to a public misconception of anything nuclear related, the dramatic decrease of students inscribing for Nuclear and Radiochemistry resulted in closure of Institutes via un-replaced retirements of faculty members and drastic reduction of financial support. Lack of teaching opportunities in Radiochemistry as the basic discipline for radiopharmaceutical, nuclear medical, health physics, and nuclear energy technology has a strong multiplicity effect on various branches of applied and basic research and, hence, on some major parts of this society's welfare.

However, the application of radio-isotopes in medical diagnostics and therapy, the use of isotopes and ionising radiation in food and safety technology (e.g. smoke detectors, demining, or detection of explosives at air ports), in agriculture, water management, or energy production requires expertise in radiochemistry and measurement of radioactivity. There is already a shortage in qualified personnel for maintenance of NPP, for decommissioning, or for safeguarding of existing fissile material (e.g. Pu in the former Soviet Union States). If no immediate action to preserve present knowledge and to encourage young scientists to engage in nuclear and radiochemistry will be taken; the subject might be fading away in several industrialised countries within a few years.

This situation applies to Europe and North America and it is well documented (The Education and Training of Isotope Experts, report of a group of experts to the U.S. House of Representatives, 1998; Radiochimie, Rapport sur la science et la technologie no 4, Academie des Sciences, TECDOC, Paris, 2000), but what about countries in Latin America, Eastern Europe, Asia or Africa? The Agency's mandate to support the peaceful use of nuclear energy implies its support to foster the human resources necessary to maintain and to safeguard these technologies. As Radiochemistry is one of the pillars in the nuclear sciences, the transfer of knowledge, training facilities, support of new applications, and creation of new job opportunities should be in clear focus of Agency's activities to support Member States.

Following an earlier consultants meeting with similar emphasis (CM on "Training requirements in Modern Aspects of Radiochemistry, Munich, 21-24 September 1987) an assessment of the current situation with respect to teaching and application of radiochemical procedures shall be undertaken by a group of experts on a regional context, including North America, Latin America, Eastern Europe, East and West Asia and Africa. Major gaps and needs for further action will be identified and recommendations to improve the desperate situation in the field of Nuclear and Radiochemistry shall be given to the Agency.

Objectives:

The objectives of the consultants meeting are:

- To discuss the findings of the experts' respective regional assessment and combine the situation in Radiochemistry to a more or less global perspective.
- To discuss possible corrective actions to enhance the public perception of Radiochemistry, to stimulate new University curricula for Radiochemistry, to encourage young scientists to study the subject, and to create a partnership with nuclear related industries to sponsor and support such initiatives.
- To write a report documenting the findings and including the relevant recommendations for further activities in the field.

Topics:

The topic of the meeting will be to highlight the Agency's role in rescuing existing knowledge and transfer of expertise in Radiochemistry. The assessment of the current situation will enable the participants to identify the needs for improvement or stimulation of activities in education and use of Radiochemical techniques. In particular the experts shall investigate

- The number and quality of the existing teaching facilities (Universities, Nuclear Research Centres, Training facilities etc.) in their respective Region,
- The number of students graduated from these facilities within the last 5 years
- The state of the art of radiochemical techniques being used in technical, medical, environmental and safe guards applications.
- If applicable to give an estimate of the future needs of qualified personnel in the nuclear applied and educational sector
- The availability of cyclotrons in the region and the estimated requirements of radionuclides for medical and other purposes
- The availability of nuclear power plants and research reactors and the situation regarding staffing and safety operation, and
- Additional requirements of trained personnel in nuclear and related industries in the region.

The information can be sorted by countries or by categories but should be converged into a regional summary.

(The co-ordinator for European Information is Jean Charles Abbe. E-mail: Jean-Charles.Abbe@ircsyn.ec-nantes.fr)

Expected outcome:

The outcome of this meeting is expected to be a comprehensive survey on the current state of Radiochemistry and related subjects in education, training, and application in Member States of the Agency. Qualified recommendations for corrective

actions using the experience gained so far in some countries will be discussed and documented. As the meeting will be held prior to the NAMLS-7 conference (Seventh International Conference on NUCLEAR ANALYTICAL METHODS IN THE LIFE SCIENCES Including Complementary Isotopic Techniques and Applications, Antalya, Turkey, 16-21 June 2002) the findings will be presented and discussed with the participants of the conference. The results of the consultants meeting will be compiled and published as a TECDOC which will be made available to permanent missions of Member States and Government representatives for consideration.

Technical Officer in charge: **M. Rossbach, Industrial Applications & Chemistry Section, IAEA Vienna. e-mail: M.Rossbach@IAEA.ORG**

The survey on education, training and application of Radiochemistry in Member States of the Agency may be arranged following subsequent scheme:

1) Training and education:

Number & subjects of educational courses, quality and grades to be addressed

Number of students having enrolled in these courses between 1995 and today

Number of degrees awarded from 1995 till today (Undergraduate, Masters, Doctorates)

Number and age of full time faculty members in nuclear and Radiochemistry employed at the Universities

Training opportunities in Research Centres and in-house training in industries

2) Nuclear Facilities:

Research reactors operational in 1995 and in 2001.

Expected life time and technical status

Cyclotrons operational in 1995 and in 2001. Expected life time and technical status.

Nuclear power stations operational in 1995 and in 2001-12-10 nuclear medical centers (hospitals) in 1995 and in 2001.

Other nuclear facilities such as hot cells, radiochemistry facilities, radiation measurement facilities, etc.

3) Estimated needs of expertise:

Radiochemists in training (Colleges, Universities and in-house) 1995 – 2001 – 2010

Radiochemists in nuclear power stations and Radiation Safety.

Radiochemists in the nuclear medical field

Radiochemists in other fields of application, use of isotopes, industry etc.

4) Suggestions for preservation of knowledge:

Financial constraints

Public concern

Political support

Other important issues

“Today, the priorities of the scientific community regarding basic research lie elsewhere than in nuclear sciences. Taken together, these circumstances create a significantly different situation from three to four decades ago when much of the present competence base was in fact generated. In addition, many of the highly competent engineers and scientists, who helped create the present nuclear industry, and its regulatory structure, are approaching retirement age. These competence issues need to be addressed at Community level and a well designed Community research and training programme should play a role that is more important than ever before. This is an area where the concept of an European research area should be further explored.” (Statement from “Strategic issues related to the 6th Euratom Framework Programme (2002-2006) Scientific and Technical Committee Euratom. Euratom, EUR19150 EN page 14.)
As a result the European Nuclear Engineering Network – ENEN was established with the aims of surveying and

co-ordinating nuclear science education in Europe. It is hoped that the outcome of a current survey will be to establish clear roadmap for the way ahead in nuclear science education in Europe. Further information on ENEN can be found on <http://www3.sckcen.be/ENEN/>
The survey of current work is being undertaken by Prof. DR. Helmuth Boeck. For his survey nuclear science covers the following topics at Masters and PhD level.

Nuclear Engineering

Nuclear Safety

Waste Management

Nuclear techniques in industry, environmental sciences, material sciences, medicine and chemistry

Radiation protection

The physics of ionising radiation

If your institute has not been approached to participate in this survey please contact Helmuth Boeck

(boeck@aci.ac.at) to establish who is your national co-ordinator.

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· 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 are 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**

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

Alpha Spectrometry

Five-day training courses in the fundamentals of alpha spectrometry are being offered by Ametek, Inc. (ORTEC, Oak Ridge, TN USA) in collaboration with The National Physics Laboratory (NPL, Teddington, UK) and Clemson University (CU, Department of Environmental Engineering and Sciences, Anderson, SC USA). Upcoming offerings include:
National Physics Laboratory, Teddington, UK (July 8-12, 2002)
Clemson University, Anderson, SC, USA (August 26-30, 2002).

The course is conducted by William Burnett (Florida State University) and Michael Schultz (ORTEC). Featured speakers include Staff Scientists from NPL and method-development radiochemists from Eichrom Technologies.

Curriculum emphasises hands-on laboratory exercises -- combined with enriching classroom lecture material.

To register or for more details, please see the ORTEC website at www.ortec-online.com and follow the link to Training Courses (See course number MS101 "Modern Methods in Alpha Spectrometry" or contact Michael Schultz at michael.schultz@ortec-online.com)

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•NEWS FROM THE INTERNET

University of Surrey

We are currently advertising an academic post for someone who has experience in Ion Beam Analysis - PIXE, RBS etc. and in particular for biological/environmental/medical studies, to replace one of my young colleagues, who was poached by the University of Singapore.

Do you know of anyone amongst your contacts who might be interested? Information is on our website <http://www.ph.surrey.ac.uk> in the job vacancies section.

Contact: Nicholas M. Spyrou, Professor of Radiation & Medical Physics, Chairman of Medical Physics,

Department of Physics, University of Surrey, Guildford, Surrey GU2 7XH, UK

Radiochemistry Laboratory Manager, New Jersey, USA

Safety and Ecology Corporation (SEC) is now accepting resumes for a Radiochemistry Laboratory Manager on a project in Northeast New Jersey. This is considered a long-term, full-time position. The candidate should have

extensive experience in both alpha and gamma spectroscopy. Duties will include:

- * Assisting with initial selection of laboratory equipment.
- * Co-ordination of initial set-up and placement of laboratory equipment.
- * Development of alpha spectroscopy protocols.
- * Operational management of lab to include a staff of up to 4 laboratory technicians.
- * Administrative management of lab operations to include budgets and client interface.
- * Performs analyses during peak operating periods

Minimum required qualifications are a B.S. in Chemistry or related field, 7 years experience in managing alpha spectroscopy laboratory operations and a willingness to relocate to the New Jersey area

Anyone interested should contact: Mike Winters at 201/226-6630 or email to

mike.winters@stoneweb.com or

Stephanie Long at 800/905-0501 or email to long@sec-tn.com

International Directory of Nuclear Facilities

At INuclearPlace (<http://www.Inuclearplace.com>) there is a list of links to all nuclear utilities (that have websites). You can find contact and other information there. Click on Links in the toolbar and then click on Nuclear Utilities when you reach the site.

Employment offer, France

Le laboratoire de physique subatomique et des technologies associées de Nantes (SUBATECH) recherche pour son groupe Radiochimie un(e) Chargé (e) d'étude – Métrologie.

Placé sous la responsabilité du chef de service métrologie et d'analyse des éléments traces, il assure le suivi métrologique général des différents outils de mesures présents au sein du laboratoire (α , β , γ). Il peut être amené à intervenir dans les opérations analytiques sur demande ponctuelle du chargé d'expérience et peut également prendre en charge des projets d'études.

Type de contrat: Contrat d'une durée déterminée de 24 mois. Niveau Bac +4 et plus.

Salaire : En fonction des diplômes.

Le dossier de candidature doit être constitué d'une lettre de motivation et d'un CV détaillé.

For further details contact Groupe Radiochimie, M Grambow or Service du Personnel, Mme BAHOLET
Tél. : 02.51.85.84.70 Tél. : 02.51.85.84.25

Southampton Oceanography Centre, UK

The Geosciences Advisory Unit at the Southampton Oceanography Centre (part of the University of Southampton) anticipates the position of Radiochemist/ Senior Radiochemist becoming available in the very near future. The

position would involve providing radiochemical expertise in support of the Unit's commercial and R & D programmes. The work is highly varied and includes the analysis of a wide range of radionuclides in environmental, biological and nuclear wastes using both radiometric and mass spectrometric techniques. Publication of studies (method development and applications in environmental processes) in the peer-reviewed literature is an important aspect of the Unit's work. Further information about the range of work and facilities available can be found at www.gau.org.uk and at www.soc.soton.ac.uk. Salary is expected to range up to £25,000 per annum depending on experience and qualification.

The Unit would welcome expressions of interest (with CVs) from both UK and overseas residents for the above post. These should be preferably sent to Dr Ian Croudace.

Contact: Dr Ian Croudace at

iwc@soc.soton.ac.uk.

Kuwait Institute for Scientific Research (KISR)

KISR has a vacancy in the field of AIR POLLUTION. Major duties are:- Participating in all research activities of the Air Pollution Team of the Coastal and Aerodynamics Department (CAD), Preparing of pre proposals and proposals leading towards contract projects, Air pollution modelling and Chemical Analysis related to Air Pollution Studies, Training junior staff in the field of air pollution studies and conducting periodical training courses in collaboration with the Human Resources Division and Providing technical assistance to the Manager of CAD.

Qualifications: Applicant should have a Ph.D. in Air Pollution Studies/BSc in related scientific field with a minimum of 5 years related experience.

For more information, please visit the web site:

www.kisr.edu.kw

•ELECTRONIC COMMUNICATION

The Royal Society of Chemistry (RSC) has been investigating the use of electronic workshops both here

in the UK and throughout Europe. Indeed a successful venture was trialled on the topic of "Analytical

Chemistry Education for the New Millennium" making use of papers volunteered by participants at The Radiochemical Methods Group of the RSC is considering setting up a trial electronic conference. A possible topic would be "Mass Spectrometry versus Classical Radiochemistry for radioactivity determination". The concept would be to obtain a few papers on the topic (maybe 6) which would be posted on a website. Access to the website for a limited period would be open to those registering for the conference in the conventional manner. The papers would be open for discussion for say 2 weeks. Comments would be sent by e-mail to an organiser who would control the discussion and replies. All acceptable discussion would be available to the registered participants with perhaps daily updates. Papers could subsequently be published in the normal way although experience has shown that papers presented in this way are often more like posters than formal papers and would require further editing before publishing.

I circulated the idea through the radiochemists network and received 13 positive replies, which included offers of two papers. The RCMG therefore decided not to continue with this trial at this time through insufficient interest.

I do feel that this or a similar approach would allow radiochemists to discuss matters of immediate interest

Euroanalysis XI.

on a timescale shorter than the existing time between meetings and conferences. I have received another idea, which is to n creating a network of radiochemists in order to do something like "VIRTUAL RADIOCHEMIST LABORATORY". It means that each group participating in this network will create in each laboratory a field of common radiochemical practise. For example:

- To create methods written in English in pdf format
 - To produce abstract of methods
 - To produce uncertainties of measurements
 - To produce annual recoveries obtained with each method
 - To create discussion groups
 - To preparing standards
 - To compare intercomparison criticised values
- Etc.

What are your comments? Is the newsletter sufficient? Does it provide the information you require? Would you participate in an electronic conference? Would you be prepared to participate in a group of "Virtual Radiochemistry Laboratories?" (Editor: Dr Tony Ware, tonyware@compuserve.com)

•NEWS FROM LITERATURE

Hungarian Radiochemistry

The homepage of the Radiochemistry Committee of the Hungarian Academy of Sciences is accessible at URL <http://www.kfki.hu/~cheminfo/osztaly/bizott/radio.html>. It contains the list of elected member nuclear chemists representing all related fields in Hungary, list of working committees, latest information on the activity of the Committee, the programme of our traditional annual national conference called Fall Meeting on

Radiochemistry and the Progress Report on Activities for the last year. Unfortunately, the homepage is only in Hungarian.

Contact: Dr. Imre SALMA, Senior Research Associate, L. Eotvos University of Sciences, Dept. of Chem. Techn. and Environmental Chemistry, H-1518 Budapest 112, P.O. Box 32, Hungary
E-mail: salma@para.chem.elte.hu

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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 and any other news of immediate interest.

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