

Secretariat: Radiochemistry Group
Analytical Division
The Royal Society of Chemistry
Burlington House
Piccadilly
London W1V 0BN
United Kingdom.



RADIOCHEMISTRY IN EUROPE NEWSLETTER

Issue 26 – November 2003

EDITORIAL COMMENT

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

You may have noticed that there has not been a newsletter since May. This has been for several reasons not least that I have had health and computer problems during the summer. Further I was beginning to question the value of the newsletter but the FECS WP on Nuclear and Radiochemistry feel that it should continue.

This newsletter is now firmly established on web page (<http://www.rsc.org/pdf/andiv/euroopenews.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/fecsradiochemistry.htm> 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 FECS WP on Nuclear and Radiochemistry met on 7th Nov in London and a report is enclosed. Minutes of the meeting will be placed on the website.

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
EUROPEAN COMMISSION'S 6th FRAMEWORK PROGRAMME FOR RESEARCH**

As indicated in the last newsletter information from the European Commission had indicated that the FP6 Budget has a specific item for Euratom Priorities and that nuclear and radiochemistry is regarded as part of this budget. There were two calls for projects in the Euratom Research and Training Programme on Nuclear Energy (2002-2006). The first call is for "Education and training in nuclear engineering and safety" with the aim to achieve the sustainable integration of education and training in nuclear engineering and safety in Europe. The FECS WP on Nuclear and Radiochemistry continues to maintain contact with this proposal but is not part of it.

The second was "Education and training needs for radiation protection and radioactive waste management" with the objective to determine the needs for co-ordinated education and training activities on a European scale and how these could be met. NIREX, UK and NAGRA, Switzerland proposed a Coordinated Action entitled "Coordination Action on Education and Training in Radiation Protection and Radioactive Waste Management (CETRAD)". Over a two-year period, this would review the necessity, requirement and syllabus for education and training in radiation protection and radioactive waste management. In principal the work will involve national correspondents initially to determine need followed by sector correspondents to determine course requirements in specific technical areas. I understand from Dr Neil Chapman that CETRAD was accepted for funding but at much reduced level (about 25%). Consequently the ambition level was trimmed and the section for Sector Correspondent removed substituting instead an enlarged evaluation workshop to look at the raw data. WP members will be invited to attend this workshop to give their views on radiochemistry.

Yet again, this involvement in FP6 proposals falls well short of the WP aim for the wider education and training of radiochemists, which the WP envisaged, in its original proposal. The WP will consider further proposals under Marie Curie Actions.

(e-mail: tonyware@compuserve.com)

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Federation of European Chemical Societies "Award for Service."

The FECS Award for Service has been presented to Professor Leiv Sydnes, Norwegian Chemical Society, in recognition of his significant contribution to European co-operation in chemistry and public appreciation of chemistry.

The Award, consisting of a medal and a scroll, was presented to Leiv Sydnes at the General Assembly of FECS member societies in Barcelona, Spain, in October.

Leiv Sydnes has been instrumental in developing the educational and professional activities of FECS and in promoting the European Chemist designation. He is recognised for his contribution to the public appreciation of chemistry, focusing on bringing the excitement and value of chemistry to children and to society in general. He has given numerous public lectures and has made prime time television programmes for the general public on chemistry-related topics. He has been involved in FECS for 10 years, serving as a member of the Executive Committee, as Vice-Chairman of the former European Communities Chemistry Council and as Chairman of the European Chemist Registration Board.

Leiv Sydnes is currently President Elect of IUPAC, (International Union of Pure and Applied Chemistry) and will take over as its President on 1 January 2004. He has served as President of the Norwegian Chemical Society 1992-96.

Leiv Sydnes has been Professor at the University of Bergen, Norway since 1993 and was previously, from 1980, at the University of Tromsø. His research is currently concentrated on organic synthesis with emphasis on the application of cyclopropane chemistry and photochemistry to introduce useful structures into organic molecules.

Further information: www.fecs-chemistry.org www.kj.uib.no/personer/sydnes/lsydnes.html

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•LABORATORY PROFILE

NIRAS ANALYTICAL SERVICES

The NIRAS radiochemistry facility, part of NNC's Solutions Centre, consists of 15 self-contained laboratories. Each is dedicated to the different facets of sample analysis process, with completely segregated suites for active and environmental analysis to avoid cross contamination. All assessment is undertaken in segregated radiometric counting laboratories.

The facility has a state of the art LIMS system (Laboratory Information Management System) to record and track all sample data and analysis information, from sample arrival, to reporting and archiving. This gives the capability to analyse a range of radionuclides in a wide variety of sample types.

A 2-phase investment programme, totalling over £900k was completed in April 2003. A £500K phase-1 investment programme was completed in September 2001 and a phase 2- investment of £400K was completed in April 2003. The

phase-2 investment has created additional laboratories for environmental level analysis. It includes separate sample receipt, archive and analysis facilities, together with additional counting equipment.

In addition, NIRAS now have a support agreement with Scientific Analysis Laboratories Ltd. (SAL) to provide a complimentary chemical analysis service. SAL has installed chemical analysis equipment in the NIRAS laboratories at Birchwood Park, Warrington, UK and will operate under NNC's Radioactive Substances Licence, to provide a seamless service to clients. This allows NIRAS to offer a comprehensive chemical, and radiochemical analysis services on radioactive or potentially radioactive samples. SAL are a fully UKAS accredited, well-known national company and their skilled and experienced staff will conduct chemical analysis within the NIRAS laboratories. All results are reported in a single NIRAS report to the client.

In building NIRAS the approach has been to form an integrated team, which can perform all the main (e.g. consultancy, analysis, site monitoring and sampling) and ancillary (project management, QA, H&S) functions. The NIRAS laboratory team is highly skilled, qualified and experienced and is used to dealing with non-standard, non-routine radiochemical analysis in both the commercial and consultancy markets. The majority of staff are qualified to a minimum of first degree level with most laboratory leaders having post graduate qualifications.

As well as the company wide quality system the NIRAS laboratory is a UKAS accredited testing laboratory No.1011. As with all such laboratories, it should be noted that the scope of accreditation applies to specific test procedures listed in the laboratory's schedule of accreditation. The NIRAS laboratory also regularly contributes to inter-laboratory comparison exercises such as the Newbiggin Sediment Sample and the NPL Environmental Inter-comparison Exercise.

The types of analytical services provided include:

- Design of analytical programmes/ method development
- Gross alpha and beta activity
- High resolution gamma spectrometry
- Alpha spectrometry
- Radiochemical separation
- Liquid scintillation spectrometry
- ICP/MS
- On site sampling
- Regulatory compliance and advice.

The NIRAS Radiological Consultancy Service provides a total project capability to industry. Ranging from phase 3 decommissioning service to routine environmental monitoring programmes. NIRAS can provide field survey teams for occupational and environmental radiological assessments, i.e. radiation Protection Advisers (RPA), Radiation Protection Supervisors (RPS) Health Physics Monitors, Survey technicians and classified radiation workers.

The Field Service team provide:

- Project management/sampling/sample management and consignment
- Gamma, beta and neutron dose rate surveys
- High sensitivity gamma flux surveys
- Transport package and high-sensitivity lorry monitoring
- Advanced Survey data Visualisation
- Regulatory compliance advice (e.g. discharge licences)

The Consultancy Services are responsible for the design, implementation and reporting projects including:

- Advice on technical contract specifications
- Design of environmental radiological surveys
- Liaising with regulators
- Data evaluation and interpretation
- Risk assessments
- Liaising with the laboratories to provide cost benefit analysis
- Waste disposal

RPS training courses are also offered. The 2-day course places special emphasis on the needs of the individuals and their companies and ensures that individual requirements are met. In addition courses can be tailored to your specific requirements and held at your premises. The course content is carefully chosen to provide a level of competence, which will allow compliance with the regulations. This has the added benefit of controlling costs to employers.

The integration of the NIRAS Site Services, Consultancy Services and Analytical Services ensures a 'one-stop' cost-effective solution to client's requirements.

(For further information on any of the above services please contact Sonia Jarvis on 01925 675636. or log on to our website at www.nnc.co.uk)

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

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•IAEA

**IAEA Report into the "Assessment of the teaching and applications in radiochemistry."
Training modules for Radiochemists initiated by the IAEA-Vienna**

A Consultants' Meeting was held at the King Kamehameha Hotel, Kailua-Kona, Hawaii prior to the MARC VI Conference in April this year with participation of experts from USA, Canada, Argentina, Japan, Germany and Belgium. It addressed the urgent need for additional educational material for students and teachers of radiochemistry and resulted in a concise plan to prepare a series of CD ROMs with basic and advanced courses in theoretical and practical radiochemistry. Taped lectures as well as animated textbook advanced chapters will be combined to issue an attractive training tool for a slowly fading academic discipline. This activity is a follow up of the previously organized CM on "Assessment of the teaching and applications in radiochemistry" held in Antalya, Turkey, June 2002. Reports of both meetings are available on request from M.Rosbach@IAEA.ORG.

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· CONFERENCE REPORTS

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· CONFERENCE AND WORKSHOP DETAILS

Radiochemistry and alpha spectrometry course

The National Physical Laboratory (UK), in collaboration with ORTEC (Oak Ridge, TN, USA) is please to announce another in a series of course offerings on the fundamentals of radiochemistry and alpha spectrometry. The intense week-long course entitled "Modern Methods in Alpha Spectrometry" comprises classroom lectures combined with hands-on laboratory (wet-chemistry and count room) modules that cover topics including: sample preparation, ion-exchange and extraction chromatography techniques, source preparation and counting, spectral analysis, decay corrections and propagation of uncertainties.

Instructors are Professor William Burnett (Florida State University, USA) and Dr. Michael Schultz (ORTEC, USA), with guest lectures from NPL Scientists. We are pleased that previous participants have found the course to very rewarding. The next offering will take place at NPL, Teddington, Middlesex, UK, February 23-27, 2004. Class size is limited. For more information please see the ORTEC website at www.ortec-online.com and follow the links to Training/MS101 Modern Methods in Alpha Spectrometry or contact Michael Schultz at michael.schultz@ortec-online.com.

(Simon Jerome National Physical Laboratory, UK)

Conference on Modern Trends in Activation Analysis,

The 11th International Conference on Modern Trends in Activation Analysis, taking place in Guildford, United Kingdom. Further information and registration forms can be found on the web site, www.mtaa11.com

Date for abstract submission is no later than 1st December 2003. Anyone wishing to present a paper at MTAA-11 is required to submit an Abstract of not more than 300 words. The completed Abstract should be submitted electronically (as an attachment in rtf format) to the MTAA-11 Programme Committee via mtaa11@surrey.ac.uk

The selection of papers is based exclusively on the evaluation of the Abstract and authors should therefore make every effort to ensure that the most pertinent information is included.

(MTAA11 National Organising Committee)

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 February 1, 2004

E-mail: nrc6@fz-juelich.de

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

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•NEWS FROM THE INTERNET

International Nuclear Chemistry Society (INCS)

The Initiative Council Members Meeting of the International Nuclear Chemistry Society (INCS) was held in Kusadasi, Turkey in September and made some important decisions for the future activities of the society. In this context, the "1st International Nuclear Chemistry Congress" will be held in Kusadasi, Turkey in May 2005, during which the Permanent Council of the society will be elected. The ANCS website is <http://www.sci.ege.edu.tr/~incs>
(Contact: Turan Unak: incs@sci.ege.edu.tr)

HILDE LEVI, Pioneer of Neutron Activation Analysis

Dr. Kaj Heydorn, who is a member of the NAMLS International Committee, asked me to share with you the sad news that Hilde Levi died in Copenhagen in July of this year at the age of 94. Some of you may recall that it was Hilde Levi who, while working as an assistant to George de Hevesy in 1936, was the first person to discover the principle of neutron activation analysis.

Recent IAEA Publications

Clean laboratories and clean rooms for analysis of radionuclides and trace elements

IAEA -TECDOC-1339, January 2003

Intercomparison of PIXE spectrometry software packages

IAEA -TECDOC-1342, February 2003

Development and use of reference materials and quality control materials

IAEA -TECDOC-1350, April 2003

Nuclear Analytical Techniques in Archaeological Investigations

Technical Reports Series No. 416, August 2003 (EUR 44.00)

ISBN 92-0-106203-6

Finnish Underground Research Facility

Posiva Oy has applied for a construction permit for an underground research facility at Olkiluoto, in Finland; the site of the planned repository for the country's spent fuel. Posiva Oy, Finland's radwaste management company, will use the research facility, called Onkalo, to verify the drilling results on the suitability of the bedrock so far obtained and to produce additional information required when Posiva applies to construct the actual repository. Onkalo will also be used to develop plans for the final repository. The Finnish Parliament approved the project in 2001.

The site is in the central part of the island of Olkiluoto, some 2 km east of the Olkiluoto nuclear power station. Site preparations will start this year, with excavation to begin in summer 2004. Construction should be completed by 2010 at a cost of E50 million (about \$60 million).

Since investigations began in the area in the late 1980s, 23 deep boreholes have been drilled, with another one now under way. Onkalo will consist of a spiral access tunnel 5.5 km long and a ventilation shaft. The research levels will be at depths of 420 m and 520 m. The total volume of the facility will be 330 000 m³.

Research activities will take place throughout the construction.

Exploration niches will be excavated along the initial access route and at the research levels for undertaking geological, mechanical, geophysical, and geochemical investigations and measurements. When completed, the facility can be used to test and simulate final disposal technology in authentic circumstances.

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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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LIST OF CURRENT LIAISON PERSONS

Dr Max Bichler (Austria)

Technische Universität

Wien, Atominst.

Abteilung Radiochemie Stadionallee 2,

A-1020 Wien, Austria

Tel.: 43 1 58801 14192

e-mail: bichler@ati.ac.at

Dr Ales Fajgelj (IAEA, Austria)

IAEA, Agency's Lab Seibersdorf

A-2444 Seibersdorf, Austria

Tel: 43 1 2600 28233

e-mail: a.fajgelj@iaea.org

Prof Dr P Benes (Czech Republic)

Czech Technical University
Nuclear Sciences & Physical
Engineering
115 19 PRAHA 1
Brehova 7, Czech Republic
Tel: (2) 231 76 26
e-mail: benes@br.fjfi.cvut.cz

Dr H Dahlgaard (Denmark)

Risoe National Laboratory,
P O Box 49, NUK-204
DK-4000 Roskilde, Denmark
Tel. 45-46775314
e-mail: henning.dahlgaard@risoe.dk

Dr J Lehto (Finland)

Laboratory of Radiochemistry
P.O.Box 55
00014 University of Helsinki
Finland
Tel: +358-9-19140137
Fax: +358-9-19140121
email: jukka.lehto@helsinki.fi

Dr D Trubert (France)

Institut de Physique Nucleaire
Division de Radiochimie
BP 1
F-91406 Orsay Cedex
France
Tel. (33) 16 1 69 41 73 45
e-mail: trubert@ipncl.in2p3.fr

Prof. Dr. R. Michel (Germany)

Zentrum für Strahlenschutz und
Radioökologie
Am Kleinen Felde 30
D-30167 Hannover
Germany
Tel.:+49-511-762-3312
Fax:+49-511-762-3319
e-mail: michel@zsr.uni-hannover.de

Dr P Misaelides (Greece)

Dept. of Chemistry, Aristotle
University
PO Box 1547
GR-540 06 Thessaloniki
Greece
e-mail: misailid@chem.auth.gr

Dr A Vincze (Hungary)

Zrinyi Miklos National Defense
University
Hungary
e-mail: vincze@zmne.hu

Prof. Z B Alfassi (Israel)

Department of Nuclear Engineering
Ben Gurion University
Beer Sheva, 84102 Israel
Tel. 972-57-461347

e-mail: alfassi@bgumail.bgu.ac.il

Prof Dr Mauro Bonardi , (Italy)

Nuclear and Radiochemistry,
Universita' degli Studi and National
Institute of Nuclear Physics,
INFN-Milano,
via F.lli Cervi 201, I-20090 Segrate
(Milano), Italy
Tel : +39 02 5835 9575
E-mail : Mauro.Bonardi@MI.INFN.IT

Dr. I Z Kolar (The Netherlands)

Interfaculty Reactor Institute
Delft University of Technology
2629 JB DELFT,
The Netherlands
Tel. (+31) 15 78 66 19
e-mail: kolar@iri.tudelft.nl

Prof P Hoff (Norway)

Nuclear Chemistry Section,
Department of Chemistry,
University of Oslo, PO Box 1033,
Blindern N-0315 Oslo
Norway
Tel: + 47 22 85 54 84
Fax: + 47 22 85 54 77
e-mail:per.hoff@kjemi.uio.no

Dr R Bojanowski (Poland)

Polish Academy of Sciences
Institute of Oceanology
Dept of Marine Chem. and Biology
Powstancow Warszawy 55
81-712 Sopot
P.O.Box 68, Poland
Tel. (48 58) 51 72 81
e-mail: rbojan@ocean.iopan.gda.pl

Dr V P Kolotov (Russia)

Verdnasky Institute of Geochemistry
and Analytical Chemistry
Kosygin str., 19
Moscow B-334, 117975, Russia
Fax:7 (095) 9382054
e-mail: kolotov@glas.apc.org

Prof. Dr Fedor Macasek (Slovakia)

Department of Nuclear Chemistry
Comenius University
Mlynska dolina
SK-842 15 Bratislava, Slovakia
Tel. +421 7 60296308,
Fax: +421 7 65424685
e-mail: macasek@fns.uniba.sk

Dr Milka Benedik (Slovenia)

Laboratory for Radiochemistry
J Stefan Institute
1000 Ljubljana
Slovenia
Tel:+ 386 1 5885 450
e-mail:ljudmila.benedik@ijs.si

Dra C Gasco (Spain)

CIEMAT (DIAF)(Ed3A)
Avda de la Complutense 22
Madrid 28040
Spain
e-mail: cata@ciemat.es

Prof. Gunnar Skarnemark

(Sweden, Gothenburg area)
Dept of Nuclear Chemistry
Chalmers Univ of Technology
S-412 96 Goteborg
Sweden
Tel. +46 31 7722914
e-mail:gunnar@nc.chalmers.se

Prof. T Eriksen (Rest of Sweden)

Dept of Nuclear Chemistry
S-10044 Stockholm 70,
Sweden

**Prof. Dr Heinz W Gäggeler
(Switzerland)**

University of Bern
Labor Fur Radio- and Umweltchemie
Freiestrasse 3
CH-3012 Bern, Switzerland
Tel;4131-6314264
e-mail:gaeggeler@iac.unibe.ch

Prof Turan Unak (Turkey)

Ege University, Faculty of Science
Dept. of Chemistry, Div. Nuclear
Chem.
Bornova, Izmir 35100, Turkey
e-mail:incs@alpha.sci.ege.edu.tr

Dr A R Ware (United Kingdom)

Avoncastle, South Lane
Sutton Valence, Maidstone
Kent ME17 3AZ, UK
Tel. (44) (0)1622 842627
e-mail:tonyware@compuserve.com

**Mr S Jerome (International
Committee for Radionuclide
Metrology)**

National Physical Laboratory
Queen's Road
Teddington
Middlesex TW11 0LW, UK
Tel:+44 20 8943 6204
Fax:+44 20 8614 0490
e-mail:ICRM_LLTWG@npl.co.uk

**Dr G Hunter (International Union
of Radioecology)**

7A Park Ave.
Stirling, Scotland
UK FK82QR
e-mail:twohunters@btopenworld.com