

**Secretariat:**

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



***RADIOCHEMISTRY IN EUROPE***  
***THE NEWSLETTER of the***  
***DIVISION of NUCLEAR and RADIOCHEMISTRY***  
**Issue 39 –November 2007**

**EDITORIAL COMMENT**

Welcome to the thirty-ninth newsletter for Radiochemists in Europe. The WebPages of the Division can still be found at [www.euchems.org/Divisions/NRC](http://www.euchems.org/Divisions/NRC). From the home page the “Future Events”, updated each month or when fresh information is received, and Radiochemistry newsletters are readily available. Useful Links have also been established, including the Homepage of the Radiochemistry Group of RSC. If any other group would like their website to be linked, please send me the details.

The minutes of the latest meeting of the Division of Nuclear and Radiochemistry of EuCheMS are given in this newsletter and published independently on the WebPages. Regarding Item 4 of the minutes, an electronic vote was taken and **Prof. Dr. Heinz W Gäggeler** has been elected as chair of the Division for the period from January 1st 2008 to December 31st 2010.

I received a request for information on a directory of radiochemistry suppliers in Europe. Does such a list exist? Would such a list of suppliers of materials and laboratory facilities be useful?

The aims and objectives of the division as given in our Procedures and Practices are given below.

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. See the 10year Planning Calendar on the website. Details of any courses would also be of interest to extend the existing database.

May I remind readers to inform me of any change to their e-mail address?

Providing that information is available it is intended 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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□ **DIVISION of NUCLEAR and RADIOCHEMISTRY.**

**Mission and Objectives**

The Division of Nuclear and Radiochemistry is a network of societies and their scientists working in nuclear and radiochemistry throughout Europe and aims to have close links to related institutions all over the world. A broad communicative basis is achieved by cooperation with relevant supranational bodies such as IUPAC and IAEA as well as with journals and newsletters. It endeavours to establish and maintain the highest quality standards in science and research. NRC accepts a role to harmonise education and training in all aspects of nuclear and radiochemistry and to offer a means of communication and collaboration between scientists working in the fields.

Objectives of the NRC are:

- To contribute to the advancement of nuclear and radiochemistry in Europe;
- To identify important areas in science, technology and other human activities relevant to nuclear and radiochemistry, and to stimulate actions in such fields;
- To address aspects of importance in or to nuclear and radiochemistry which need regulation, harmonisation, standardisation or codification, and to make recommendations as appropriate;
- To encourage cooperation between analytical chemists whether working in academia, industry or governance, in particular within the countries of the member societies of EuCheMS
- To foster close contacts and cooperation of NRC with the European Commission and other relevant institutions;
- To safeguard the interests of the nuclear and radiochemistry community, especially concerning recognition and legitimisation in matters of regulation and legislation as well as decision making in economic and in social areas;
- To assist and strengthen quality in teaching and training of nuclear and radiochemistry in education and in daily practice;
- To support the transfer and exchange of knowledge, equipment and personnel in the areas of NRC expertise both within Europe and in non-European countries;
- To hold a European Conference at least every other year;
- To assume a general promotion and coordination function for other conferences and courses in Europe related to NRC activities;
- To disseminate information to the wider scientific community and general public about nuclear and radiochemistry and its achievements.

#### **Priorities of the Division**

1. Constitution was established as Practices and Procedures with the aims and objectives given above.
2. The Division should continue editing the Newsletter as official information periodical of the Division with S. Jerome and A. Vertes agreeing to assist A. Ware in editing.
3. Web site. All members are asked to send any links, they would like to have listed here, to A. Ware.
4. Diary of future events (10-years Calendar) – has been established
4. Co-ordination of T&E in Radiochemistry and Review of Courses. A survey will be circulated to Division members for comments.
5. Contact has been made with the Technical Advisory Boards of both the NRC and Radchem series of meetings. The list of these and other Future Events are being maintained up to date on the website.

**If your country does not have a nominee to the Division, please press your Chemical Society to nominate a candidate.**

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□ EUROPEAN ASSOCIATION for CHEMICAL and MOLECULAR SCIENCES

#### **Minutes of the Annual Meeting of the DIVISION on NUCLEAR- and RADIOCHEMISTRY held on Friday 28<sup>th</sup> September 2007 at 9.30hrs at Conference Centre, Davos, Switzerland**

**Those present:** Prof. Dr. Heinz Gäggeler (Switzerland), Prof. Dr. Jan John (Czech Republic), Prof. Dr. Andreas Türler (Germany), and Dr. Anthony Ware (UK, Chair).

**Apologies were received from:** Prof. Mauro Bonardi (Italy), Prof. C. Gascó Leonarte (Spain), Prof. Per Hoff (Norway), Dr. Xiaolin Hou (Denmark), Mr. Simon Jerome (UK), Ir. Zvonimir I. Kolar, MSc. (The Netherlands), Dr. Panagiotis Misaelides (Greece), Prof. Jerzy Narbutt (Poland), Dr. Árpád Vincze (Hungary).

**Those not present:** Prof. Alexander Chekmarev (Russia), Dr. Divna Djokić (Serbia & Montenegro), Prof. Dr. Jukka Lehto (Finland), Dr. Ioannis Paschalidis (Cyprus), Prof. Pavol Rajec (Slovakia), Dr. Isabel Santos (Portugal), Prof. Eric Simoni (France), Prof. Gunnar Skarnemark (Sweden), Dr. Rayna Stefanova (Bulgaria), Prof. Turan Unak (Turkey), Dr. Israel Zilbermann (Israel).

1. A. Ware gave apologies as above and informed that Z. Kolar ceased to be the head of the Radiochemistry Division of the Dutch Chemical Society (DCS) but he is prepared to continue representing DCS in the DNRC. A. Ware will discuss this topic with the DCS and Z. Kolar.
2. The Annual Meeting agreed to the Agenda as circulated.
3. The minutes of the previous meeting (August 31<sup>st</sup> 2006) were reviewed and approved. H. Gäggeler complained for not having received any answer from EuCheMS in response to his request to include TAN 07 into the list of EuCheMS sponsored events. A. Ware will raise this item at the next EuCheMS Executive meeting.

4. Select new chairperson for the group  
 After a detailed discussion of the options and their pros and contras, the Annual Meeting nominated H. Gägger as a chairman for the next period (1.1.2008 – 31.12.2011). Because of the limited attendance, it was decided that the vote will be taken electronically. A. Ware will organise this vote within the next 4 weeks. Option of appointing a Steering Committee, which would be able and willing to meet as frequently as necessary to solve urgent matters arising between the annual meetings, was discussed and it was decided to include this question into the agenda of the next meeting.  
 A Task Force was set up to continue editing the Newsletter. A. Ware was appointed the head of this Task Force. He suggested to appoint his current supporters – A. Vertés and S. Jerome – the members of this Task Force. Annual Meeting approved this appointment, A. Ware will seek their agreement with the membership in this Task Force.
5. Newsletter  
 Distribution of the information on appearance or the new Newsletter was discussed. The options considered were whether to create one big distribution list or disseminate the information through the national representatives. The majority opted for one big distribution list.  
 The most current mailing lists – big conference participants + members of national radiochemistry groups – should be sent to [angela.blattman@psi.ch](mailto:angela.blattman@psi.ch) for inclusion into this new big list.
6. Website  
 The Annual Meeting was informed that the design of the WebPages cannot be changed because it has been uniform for the entire EuCheMS site. Submission of the new contributions to the WebPages (operated by RSC) is easy, fast and reliable. All members are asked to send any links, they would like to have listed here, to A. Ware.  
 The Diary of future events (10-years Calendar) will be updated in January 2008. All members are asked to send any information, they would like to have listed here, to A. Ware.
7. EuCheMS report  
 A. Ware informed the Annual Meeting about the recent and the forthcoming EuCheMS Executive meetings and other EuCheMS activities. The reasons for not having suggested any topic for the 2<sup>nd</sup> ECC, to take place in 2008 in Torino, were revisited (collision with NRC 7). Anyway, as the EuCheMS Executive member, the acting chairman of the DNRC is a member of the 2<sup>nd</sup> ECC Organising Committee so that a contact is maintained.
8. NRC 2008  
 A. Ware informed the Annual Meeting that the organisation is going on, the information has been distributed to the international community. Prof. Atilla Vertés (Hungary) who – following the information of A. Vincze – should have presented the Annual Meeting with a detailed information on behalf of the NRC 7 Organising Committee did not show up.  
 The DNRC Annual Meeting expressed some concern about the changes in the International Advisory Board, made by the NRC 7 organisers. The DNRC will try to be more deeply involved in the organisation of the next events in this series. Potential candidates for organising NRC 8 were discussed.
9. Other upcoming meetings  
 Information on TAN 11, the next APSORC and any potential future meetings, not yet included in the Future Events – 10 Years Calendar, should be mailed to A. Ware.
10. Any other business  
 INCS conference series was discussed.
11. Date and venue for the next meeting:  
 In coincidence with the NRC 7 conference at Budapest. The exact date, time and place to be decided.

**Comment [JJ1]:** I suggest not to mention the Secretary here at this moment. Following the valid P&Ps, the Secretary is proposed by the Chairman and is approved by the Annual Meeting. Following the result of Anthony's discussion with S. Jerome, Heinz may (if and after he will be elected) propose a person and Simon, Anthony, or Heinz will ask the Division to approve the Secretary by an electronic vote.

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**•LABORATORY/BUSINESS PROFILES**

None offered in the last few months. Please send copy if you wish your laboratory or business to be featured.

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## ●CONFERENCE AND WORKSHOP REPORTS

### **3<sup>rd</sup> Int. Conference on the Chemistry and Physics of Transactinides, TAN07** 23 – 27 September 2007, Davos, Switzerland

This conference series started 1999 in Germany (Seeheim) and continued 2003 in USA (Napa, CA). The aim is to discuss experimental and theoretical progress in chemistry and physics of transactinides. About 100 scientists participated at TAN'07, representing all major players in the field. At the opening session the chairman pointed to the fact that currently 14 transactinides have been discovered or are claimed discovered (with a IUPAC approval still missing) – exactly the same number as for the actinides.

In a pre-conference honouring session the scientific contribution of Prof. Hans Rudolf von Gunten to the field of heavy element science was nicely summarized by Prof. D.C. Hoffman from Berkeley.

During the Conference it became clear that there is currently little doubt anymore concerning the FLNR Dubna (Russia) claims to have discovered elements 113 to 118 (with element 117 still missing). Some of those claims have meanwhile been confirmed, both in physics experiments at GSI Darmstadt (Germany) as well as by chemistry experiments under the leadership of a PSI Villigen (Switzerland) group.

Theoretical contributions indicated that the position of the island of superheavy elements is not clearly fixed anymore to atomic number 114. It might well be that this island extends to even heavier elements such as  $Z=120$  or  $Z=122$ .

Therefore, physics experiments have already started both at Dubna as well as at GSI to search for e.g. element 120, however without success so far.

Chemistry studies showed impressive progress in analytical technology, e.g. by the JAEA group from Tokai (Japan), with now fully automated and computer controlled separation and detection systems. Of utmost importance are developments to couple future chemical studies not to a gas-jet transport system anymore but to a gas-filled magnetic separator, e.g. the TASCA project at GSI. This novel approach enables future studies under much cleaner conditions, since contamination by transfer products, which often hamper the detection of wanted superheavy elements, is much reduced.

Most recent experiments performed at Dubna by a large collaboration indicated a noble gas like behaviour of element 114. This result was met with much scepticism by theoretical chemists from GSI and Massey University, Auckland (New Zealand). Therefore, these experiments need further confirmation prior to publication.

Several talks presented improved and sophisticated developments now permitting detailed studies of heaviest elements, e.g. in ion traps of SHIPTRAP at GSI.

Finally one talk from Basel University (Switzerland) summarized our current understanding on element synthesis in space, e.g. formation of superheavy elements via the r-process.

Most of the talks presented at TAN07 can be downloaded from:

<http://tan07.web.psi.ch/present.html>

To open the files please use: User name: TAN07 Password: Tan07davos

**(Heinz W. Gäggeler)**

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## ●CONFERENCE AND WORKSHOP DETAILS

### **The Seventh International Conference on Nuclear and Radiochemistry (NRC-7) Budapest, Hungary 24 – 29 August 2008**

NRC7 the next in the series of Nuclear and Radiochemistry Conferences will be held in Budapest at the Eötvös Loránd University. It is organised by the University supported by the Hungarian Chemical Society and sponsored by EuCheMS. The website can be found at [www.nrc7.mke.org.hu](http://www.nrc7.mke.org.hu). In keeping with previous conferences it aims to cover a range of topics in nuclear and radiochemistry. They include:

Fundamental nuclear chemistry, Actinides, Transactinides, Radioanalytical chemistry, Radionuclide production, Radiotracers in life sciences, Radionuclides in geo- and cosmochemistry, Radiochemistry in nuclear energy production, Radioecology and environmental sciences and Nuclear methods in material science and industrial applications. The deadline for submission of abstracts is 31 January 2008.

The Web page of the conference is now open for registration and abstract submission. For additional details please visit <http://www.nrc7.mke.org.hu/>

### **2<sup>nd</sup> International Nuclear Chemistry Congress**

The 2nd International Nuclear Chemistry Congress (2nd-INCC) will be held between 13 -18 April 2008 in Cancún, Mexico. The electronic versions of the "First Announcement and Call for Papers" and the billboard posted on their website. For further information please contact Professor Turan Unak or Professor J. M. Navarrete.

Turan Ünak, Professor of Nuclear Chemistry, INCS President

Phone: +90 232 388 4000 / 1733 Fax: +90 232 377 1024

E-mail: [incs@mail.ege.edu.tr](mailto:incs@mail.ege.edu.tr) Alternative e-mail: [turan.unak@ege.edu.tr](mailto:turan.unak@ege.edu.tr)

Web: <http://incs.ege.edu.tr>

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#### NEWS FROM THE INTERNET

##### **New Title in Chemistry**

Due for publication in December 2007 is a new book entitled "The Inorganic Chemistry of the Heavy Elements: Methods for Studying Gaseous Compounds" by Ivo Zvára. The aim of this book is to stimulate the wider use of advantageous gas phase techniques towards a wider variety of elements. Studies of the transactinoid elements, which are polyvalent metals, greatly motivated developments in the application of volatile (even Hydrolysable) inorganic compounds to fast radiochemical separations. Some selected experiments and their results with species such as various halides and oxyhalides are presented. Primarily this book features the physico-chemical basis of experimental methods and techniques which are (or can be) used for compounds of all heavy metals.

This book is aimed at newcomers to the field as well as experts actively engaged in this area of research.

**(Contact e-mail: [SDC-bookorder@springer.com](mailto:SDC-bookorder@springer.com))**

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#### JOB OPPORTUNITIES

##### **Two PhD scholarships**

The Radiation Research Department at Risø DTU in Denmark is seeking PhD students from 2008. The PhD students will become members of an environment with activities and expertise in radioecology and analytical chemistry. We offer exciting and challenging projects in an international environment with good possibilities for professional and personal development.

Project 1: Method development for automated analysis of radionuclides

Project 2: Speciation and environmental behaviour of radionuclides

You can find a detailed description of the projects as well as the required qualifications on [www.risoe.dk](http://www.risoe.dk) under "Job and Career".

Further information on Risø DTU and the department is available on [www.risoe.dk](http://www.risoe.dk).

##### **Norwegian Radiation Protection Authority**

A number of vacant positions relevant to readers of the list have been announced at the Norwegian Radiation Protection Authority.

English announcement may be found on [http://www.nrpa.no/old\\_eng/english/](http://www.nrpa.no/old_eng/english/) under Current Vacancies

Norwegian announcement may be found at:

<http://www.nrpa.no/index.asp?topExpand=&subExpand=&menuid=1000322&strUrl=/applications/system/publish/view/showobject.asp?infoobjectid=1000717&context=1>

Further information can be found on the websites or by using the contact information on the relevant sections of the sites.

**(M.Dowdall)**

##### **PhD-student at Norwegian University of Life Science, Norway.**

The topic is Dispersion of NORM/TENORM.

The work will concentrate around Th-rich areas in Norway, but there will be close collaboration to international project within TENORM sites in Central Asia.

Are you interested, please apply for the position at this web site:

<http://www.jobbnorge.no/visstilling2.aspx?stillid=41131&lang=EN>

I am sorry, the text is in Norwegian, but I will be happy to answer any question you might have.

**(Lindis Skipperud [lindis.skipperud@umb.no](mailto:lindis.skipperud@umb.no))**

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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](mailto: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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**DIVISION Members**

**Prof. Mauro Bonardi (Italy)**

Head of Radiochemistry Laboratory  
LASA  
Via F.lli Cervi,  
20090 Segrate  
Milano, Italy  
[Mauro.bonardi@mi.infn.it](mailto:Mauro.bonardi@mi.infn.it)

**Prof. Alexander Chekmarev (Russia)**

Russian D Mendeleev University of  
Chemical Technology  
Miusskaya Sic9, 125190 Moscow, Russia  
[chizh@interet.ru](mailto:chizh@interet.ru)

**Dr Divna Djokić (Serbia)**

The Vinča Institute of Nuclear Science  
PO Box 522, 11001 Belgrade  
Serbia and Montenegro  
[djokici@vin.bg.ac.yu](mailto:djokici@vin.bg.ac.yu)

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

Dept. for Chemistry and Biochemistry  
Freiestrasse 3, CH-3012 Bern,  
Switzerland  
[heinz.gaeggeler@iac.unibe.ch](mailto:heinz.gaeggeler@iac.unibe.ch)  
and [heinz.gaeggeler@psi.ch](mailto:heinz.gaeggeler@psi.ch)

**Dr Xiaolin Hou (Denmark)**

Risø National Laboratory  
Department of Radiation Research  
NUK-202, DK-4000  
Roskilde, Denmark  
[xiaolin.hou@risoe.dk](mailto:xiaolin.hou@risoe.dk)

**Prof Per Hoff (Norway)**

Nuclear Chemistry Section, Department of  
Chemistry,  
University of Oslo, PO Box 1033,  
Blindern N-0315 Oslo, Norway  
[per.hoff@kjemi.uio.no](mailto:per.hoff@kjemi.uio.no)

**Mr S Jerome (UK)**

National Physical Laboratory  
G6 – A5 Hampton Road  
Teddington  
Middlesex TW11 0LW, UK  
[simon.jerome@npl.co.uk](mailto:simon.jerome@npl.co.uk)

**Dr Jan John (Czech Republic)**

Dept Nuc Chem, Czech Tech.Univ.in  
Prague  
Brehova 7, 115 19 Praha 1, Czech  
Republic  
[jan.john@jfifi.cvut.cz](mailto:jan.john@jfifi.cvut.cz)

**Ir. Zvonimir I Kolar, MSc (The  
Netherlands)**

Dept. of Radiation, Radionuclides &  
Reactors. Faculty Applied Science  
Delft University of Technology  
Mekelweg 15, 2629 JB Delft,  
The Netherlands  
[z.i.kolar@tudelft.nl](mailto:z.i.kolar@tudelft.nl)

**Dr Jukka Lehto (Finland)**

Laboratory of Radiochemistry  
P.O.Box 55  
00014 University of Helsinki, Finland  
[jukka.lehto@helsinki.fi](mailto:jukka.lehto@helsinki.fi)

**Dra Catalina Gascó Leonarte (Spain)**

CIEMAT (DIAF)(Ed3A)  
Avda de la Complutense 22  
Madrid 28040  
Spain  
[catalina.gasco@ciemat.es](mailto:catalina.gasco@ciemat.es)

**Dr Panagiotis Misaïlides (Greece)**

Dept. of Chemistry, Aristotle University,  
PO Box 1547  
GR-54006 Thessaloniki, Greece  
[misaïlid@chem.auth.gr](mailto:misaïlid@chem.auth.gr)

**Prof. Jerzy Narbutt, (Poland)**

Head of Dept of Radiochemistry  
Institute of Nuclear Chemistry &  
Technology  
Dorodna 16, 03-195 Warszawa, Poland  
[jnarbut@orange.ichtj.waw.pl](mailto:jnarbut@orange.ichtj.waw.pl)

**Dr Ioannis Paschalidis (Cyprus)**

Assistant Professor of Radiochemistry  
Dept. of Chemistry, University of Cyprus  
[pspasch@ucy.ac.cy](mailto:pspasch@ucy.ac.cy)

**Prof.. Pavol Rajec (Slovakia)**

Dept. of Nuclear Chemistry, Faculty of  
Natural Sciences  
Comenius University, Mlynska dolina  
842 15 Bratislava, Slovakia  
[rajec@fns.uniba.sk](mailto:rajec@fns.uniba.sk)

**Dr Isabel Santos (Portugal)**

Instituto Tecnológico de Nuclear,  
Departamento de Quimica  
Est. Nacional 10, 2686 Sacavém, Portugal  
[isantos@itn.pt](mailto:isantos@itn.pt)

**Prof. Eric Simoni (France)**

IPN, Paris XI University,  
France  
[simoni@ipno.in2p3.fr](mailto:simoni@ipno.in2p3.fr)

**Prof Gunnar Skarnemark (Sweden)**

Dept of Nuclear Chemistry, Chalmers  
Univ of Technology  
S-41296 Goteborg, Sweden  
[gunnar@nc.chalmers.se](mailto:gunnar@nc.chalmers.se)

**Dr. Rayna Stefanova (Bulgaria)**

National Centre of Radiobiology and  
Radiation Protection,  
National Laboratory for Control of  
Irradiated Foods  
132 Kliment Ohridsky  
1756 Sofia, Bulgaria  
[r.stefanova@ncrrp.org](mailto:r.stefanova@ncrrp.org)

**Prof. Andreas Türler (Germany)**

Institute for Radiochemistry  
TU München  
[andreas.tuerler@radiochemie.de](mailto:andreas.tuerler@radiochemie.de)

**Prof. Turan Unak (Turkey)**

Ege University, Faculty of Science  
Dept of Chemistry, Div Nuclear Chem  
Bornova, Izmir 35100, Turkey  
[incs@sci.ege.edu.tr](mailto:incs@sci.ege.edu.tr)

**Dr A Vincze (Hungary)**

Zrinyi Miklos National Defense  
University  
Hungary  
[vincze.arpad@zmne.hu](mailto:vincze.arpad@zmne.hu)

**Dr A R Ware (UK)**

Avoncastle , South Lane  
Sutton Valence, Maidstone  
Kent ME17 3AZ, UK  
Tel. +44(0)1622 842627  
[tonyware@compuserve.com](mailto:tonyware@compuserve.com)

**Dr Israel Zilbermann (Israel)**

Chemistry Department, Nuclear Research  
Centre Negev,  
POB 9001,  
Beer-Sheva 84190, Israel  
[kurzionz@bgumail.bgu.ac.il](mailto:kurzionz@bgumail.bgu.ac.il)

## LIST OF ADDITIONAL 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](mailto: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](mailto:a.fajgelj@iaea.org)

**Dr. Dusan Razem, Head, (Croatia)**

Radiation Chemistry and Dosimetry  
Laboratory  
Dept of Chemistry  
Rudjer Boskovic Institute  
Bijenicka cesta 54, P.O.Box 180  
1000 Zagreb  
Croatia  
[razem@rudjer.irb.hr](mailto:razem@rudjer.irb.hr)

**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: [petr.benes@jffi.cvut.cz](mailto:petr.benes@jffi.cvut.cz)

**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@ipncls.in2p3.fr](mailto:trubert@ipncls.in2p3.fr)

**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](mailto:alfassi@bgumail.bgu.ac.il)

**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](mailto: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](mailto:kolotov@glas.apc.org) or  
[kolotov@online.ru](mailto:kolotov@online.ru)

**Prof. Dr Fedor Macasek (Slovakia)**

Quality Manager BIONT,

Karloveska 63

SK-842 29 Bratislava 4,  
Slovakia  
Tel. +421 2 206 70 756,  
Fax: +421 2 206 70 748  
e-mail: [macasek@biont.sk](mailto:macasek@biont.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](mailto:ljudmila.benedik@ijs.si)

**Prof. T Eriksen (Rest of Sweden)**

Dept of Nuclear Chemistry  
S-10044 Stockholm 70,  
Sweden  
e-mail: [tee@nuchem.kth.se](mailto:tee@nuchem.kth.se)

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

7A Park Ave.  
Stirling, Scotland  
UK FK82QR  
e-mail: [twohunters@btopenworld.com](mailto:twohunters@btopenworld.com)