

Policy Development Group visits Brussels

On 16 and 17 May the EuCheMS Policy Development Group visited Brussels, meeting with officials from the European Commission's Directorate General for Research and Innovation and the European Research Council's Executive Agency. The main objective was to ensure that the decision-makers have a fuller understanding of the critical role of the chemical sciences in addressing the great challenges facing society. In particular, it was an opportunity to present the outline of the EuCheMS Roadmap for the Chemical Sciences (see page 4). Officials welcomed the EuCheMS visit and were interested to know more about the roadmap and the views of Europe's single voice for chemistry. Officials said they hoped that the discussions would be the beginning of a continuing dialogue with the chemical sciences.

As the EU defines the future of the EU's Common Strategic Framework for Research and Innovation, EuCheMS will not restrict itself to highlighting the role that chemistry could play. For example, whilst we welcomed the Joint Programming Initiatives as a way to allow for more effective use of resources and to reduce fragmentation and duplication, EuCheMS representatives emphasised the need for a bottom up approach. They also encouraged the Commission to take measures that would encourage individual experts to participate from countries which are not members of a particular Joint Programming Consortia ensuring that European expertise was represented as comprehensively as possible.

The meetings helped shape the final response of EuCheMS to the consultation on the future of the framework programme, now available on the EuCheMS website (www.euchems.org/binaries/green-paper-future-framework_tcm23-202645.pdf). Given the economic situation in Europe, the

EU is placing emphasis on linking research to innovation. EuCheMS underlined that chemistry was probably the most industrially relevant science and would therefore be critical to Europe's ambition to become an "Innovation Union". EuCheMS met with the Director and senior managers of the European Research Council's Executive Agency and voiced support for the European Research Council's work in advancing frontier research. EuCheMS would like to reinforce the European Research Council's commitment to excellence and stressed the importance of basic research in the future framework programme.

Over the coming years, EuCheMS will build on the contacts made during the visit. EuCheMS needs to ensure that the role of the chemical sciences is heard in all relevant themes in the future programme. We need to ensure that general principles are upheld, such as the urgent need for simplification of current processes focusing on the end user, the support of excellence, the increase in the overall budget allocated to research and efforts to ensure that research infrastructure in all European countries is supported.

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**Greetings from Macedonia:
An International Year of Chemistry
stamp designed by Igor Stevkovski.**

Chemistry for green solutions

As part of the European Commission's Green Week dedicated to resource efficiency, EuCheMS organised an event to underline the critical role chemistry plays in creating a sustainable future. Green Week is the biggest European environment policy event of the year. It is organised by the European Commission's Directorate General (DG) for the Environment, but involves many other organisations including the United Nations Environment Programme (UNEP), non-governmental organisations and business.

Launched in February, the Commission's Resource-Efficient Europe strategy is the seventh and last of the Europe 2020 flagship initiatives setting out Europe's strategy for the next ten years. Resource efficiency will now be the guiding principle for EU policies in a wide range of areas. Commissioner for the Environment, Janez Potocnik, emphasized that business as usual is not an option, as we will "quickly hit the physical limits of our planet". He pointed out that a lot of investment in research and innovation is needed, in order to reap the benefits that green and other technologies can bring.

At the EuCheMS event, moderated by Georges Deschamps from the Environmental Technologies Department of DG Research and Innovation, EuCheMS drew attention to the EuCheMS Roadmap for the Chemical Sciences (see page 4) and suggested a number of areas where the chemical sciences will play an important role, such as sustainable product design, conservation of scarce natural resources, conversion of biomass and recovery of feedstock.

Michael Roeper, EuCheMS lead expert on resource efficiency, introduced the EuCheMS Roadmap. Wim Thielemans, Green Technology Group at the University of Nottingham, provided an overview of green chemistry. The last speaker was Mike Pitts, Priorities Manager at Chemistry Innovation Knowledge Transfer Network. The event made it clear that chemists working with other disciplines will play a central role in addressing resource efficiency.

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The European Association
for Chemical and Molecular
Sciences

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Eliminating chemical weapons

On 17 March, the Royal Society of Chemistry (RSC) hosted a special International Year of Chemistry event which focused on efforts to abolish chemical weapons around the world. The Director General of the Organisation for the Prohibition of Chemical Weapons (OPCW), Ambassador Ahmet Üzümcü, addressed leading scientists and members of the diplomatic community at the Chemistry Centre, London. His presentation was the result of discussions between the RSC, the OPCW and the Foreign and Commonwealth Office (FCO).

The Ambassador highlighted the work of the OPCW and its unique role in ensuring that chemistry is used only for peaceful purposes and in implementing the Chemical Weapons Convention, which entered into force in 1997. Invited guests included foreign ambassadors, senior representatives from the FCO and the Ministry of Defence (MOD) as well as industry and academia representatives. The Ambassador said: "The science of chemistry is today organically linked to human progress. But the misuse of this same science has anguished human conscience and tarnished the history of our modern civilisation." He explained that, to achieve the goals of the Convention, it will require international cooperation, including that of the chemical science community: "The aspiration of a world free from chemical weapons will be realised through a high degree of awareness, a shared vision and shared responsibility. Scientists, chemists and chemical engineers worldwide are the first line of defence against abuses of knowledge and skills."

The RSC is proud of its own advisory role in eliminating chemical weapons; its staff and members have been central to international discussions and lawmaking. To see the video of the event, visit the website www.rsc.org/chemicalweapons.

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Ambassador Ahmet Üzümcü talked in London on defending against chemical weapons.

New website: Slovak Chemical Society cooperates with BASF

As part of the International Year of Chemistry (IYC) 2011, the Slovak Chemical Society, BASF and other partners have established a unique online chemistry knowledge base called Chemgeneration.com, which was successfully launched in Slovakia in April 2011. The main purpose of the website is to attract young people to chemistry and to present the fundamental part chemistry plays in the world, with special emphasis on its key role in the sustainable development of our future. The new website will be introduced in all other ten countries and available in eleven languages over the next few months. Packed with eye-catching visual elements in an entertaining style, Chemgeneration.com presents history of chemistry, its greatest achievements and influence on the mankind's prosperity.

"The realization of the website is of great benefit not only for specialists, but also for the general public and I believe that this virtual chemical classroom will find its fans," said Viktor Milata, President of the Slovak Chemical Society. Zdenka Predná, the finalist of the first Slovak Idol contest, is the ambassador of Chemgeneration.com in Slova-



Chemgeneration.com: The virtual chemical classroom attracts young people to chemistry.

kia. "I decided to support this project to spread good chemistry features among young people. My regret is that the virtual classroom didn't exist when I was at school. I might have had a completely different relationship to chemistry," said Zdenka. "It is a great pleasure for me that with the Chemgeneration.com project we can effectively support chemistry education in Hungary and Central-Eastern Europe," said Joachim Meyer, Senior Vice President of BASF Business Center Europe Central.

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The EurChem qualification

The personal quality label European Chemist (EurChem) has been administered and maintained by the EuCheMS European Chemist Registration Board (ECRB) since the 1990s. The aim of the EurChem designation is to promote the mobility of chemical scientists throughout Europe based on an agreed set of skills, competencies and training. The number of title holders of this qualification differs very much by country. Currently, the most registered European Chemists are from the UK (321), Netherlands (153), Spain (121), and Italy (116). Countries where chemists expressed less interest are Germany (33), Czech Republic and Ireland (both 12), Belgium (6), Greece (4), Portugal (2), Norway and France (both 1). The award of the



EurChem title reflects the qualifications, practice and standards of an individual and helps chemists who are moving from one employer to another in different member states to receive equal treatment across Europe.

Anyone interested in registering or prolonging his or her registration should contact the Secretary of the ECRB, Helena Pokorna c/o Czech Chemical Society, Novotného Lavka 5 CZ-116 68 Praha 1, Tel.: +420 222 220 184, email: chem_spol@csvts.cz.

Pavel Drašar, Pavel.Drasar@vscht.cz
Further information at [www.rsc.org/
Education/Qualifications/EurChem.asp](http://www.rsc.org/Education/Qualifications/EurChem.asp)

Distinguished women chemists and chemical engineers

To mark the International Year of Chemistry, 23 women scientists will receive the Distinguished Women in Chemistry/Chemical Engineering Award designed to acknowledge and promote the work of women chemists and chemical engineers worldwide (*speakers at the Puerto Rico event, see below): Vanderlan Bolzani* (Brazil), Linda F. Nazar (Canada), Nicole J. Moreau* (France), Luisa De Cola and Katharina Kohse-Höinghaus (Germany), Magdolna Hargittai and Klára Tóth (Hungary), Ada E. Yonath* (Israel), Yoshie Souma (Japan), Nouria A. Al-Awadi and Faizah Mohammed Abdel Mohsin Al-Kharafi (Kuwait), Carolyn Ribes* (Netherlands), Izabela Nowak* (Poland), Natalia Tarasova* (Russia), Sara Snogerup Linse (Sweden), H. R. H. Princess Chulabhorn Mahidol* (Thailand), Ayse Aroguz* (Turkey), Lesley J. Yellowlees and Véronique Gouverneur

(United Kingdom), Novella Bridges, Joanna Fowler, Nancy B. Jackson* and Susan M. Kauzlarich (USA). Of these women, 13 are working in Europe and several were nominated by EuCheMS.

Their Awards will be acknowledged at the IUPAC World Chemistry Congress during a symposium entitled "Are women still underrepresented in science?" on 2 August in Puerto Rico. As part of the overall project supported by an ACS Challenge Grant, the Award recipients will share information on their research and roles in web-based interviews.

EuCheMS is very pleased to congratulate all the Award winners. Further information is available at www.chemistry2011.org/participate/activities/show?id=1156.

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Special issue: Chlorine-free synthesis for green chemistry

Halogens are widely used by all sectors of the chemical industry and chlorine stands as an iconic molecule. Chlorine is widely used, despite its production by electrolysis being energy intensive, since it allows the easy manufacture of chlorinated derivatives; a chain of chemical derivatives and intermediates such as AlCl_3 , SnCl_4 , TiCl_4 , SiCl_4 , ZnCl_2 , PCl_3 , PCl_5 , POCl_3 , COCl_2 store and use this energy primarily produced via the initial electrolysis.

Environmental constraints and the energy savings force us now to take advantage of available technologies to develop a new chemical strategy. The substitution of compounds where chlorine is used in the making, means that we will avoid electrolysis as primary energetic source; this however makes chemistry without chlorine considerably more difficult and illustrates why it has not been adopted before.

Recently, IUPAC decided to dedicate a special issue of *Pure and Applied Chemistry* on

"Chlorine-free synthesis for green chemistry". This issue (expected to be published on the first months of 2012) will deal with:

- chlorine-free reagents
- chlorine-free catalysts
- chlorine-free solvents
- phosgene replacement
- thionyl chloride substitution
- metrics for chlorine-free reactions

Proposals for contributions (scientific articles, reviews) are welcome. The Project Editors are Fabio Aricò (fabio.arico@unive.it) and Andrea Vavasori (vavasori@unive.it), both from Venice, and Zhimin Liu (liuzm@iccas.ac.cn) and Tao Jiang (jiangt@iccas.ac.cn), both from Beijing, to whom articles and review papers should be sent.

*Pietro Tundo, tundop@unive.it
Chairman, EuCheMS WP on Green and Sustainable Chemistry*

More information at www.dais.unive.it/documenti/Chlorine_substitution.pdf



Lesley Yellowlees will be the first woman President of the Royal Society of Chemistry.

First female RSC President

Lesley Yellowlees of the University of Edinburgh will be the President-Elect of the Royal Society of Chemistry (RSC) from summer 2012. The RSC traces its roots to 1841, and in this time neither the RSC, nor its predecessors, have had a woman in this honorary post.

Lesley Yellowlees is a professor of inorganic electrochemistry at the University of Edinburgh. She will take up her two-year presidency of the RSC in the summer of 2012. From July this year she will be President Elect, working with current President David Phillips who is delighted by the news: "Lesley Yellowlees has an outstanding record of contribution to our science through her research and her teaching as well as her activities to promote chemistry and the RSC. Her academic and scientific record, combined with her profound interest in the future of chemistry as a subject, make Lesley Yellowlees an ideal choice for President. Lesley is noted for her energy, her sense of commitment and for speaking up for science."

Lesley Yellowlees said: "I am delighted to have been given the opportunity to become the next President of the RSC. In this International Year of Chemistry, during which we are celebrating the life and achievements of Marie Curie, it gives me additional pleasure to realise that I will be the first woman President of the society."

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Ulrich Schubert, one of the main speakers at the opening ceremony in Bratislava.

EC2E2N Annual Conference & ECTN Association Meeting

The Comenius University in Bratislava, Faculty of Natural Sciences, together with the Slovak Chemical Society organised the EC2E2N Annual Conference & ECTN Association Meeting 2011 on 19 to 21 May 2011.

This meeting brought together up to 170 chemists from Europe, Australia, South Africa, Egypt, Canada and USA for discussions about higher education in chemistry in Europe. In several working groups, participants discussed about the topics: image of chemistry, transparency, lecturing qualifications, student-centered activities, employability, virtual campus, attractiveness, improving learning outcomes, interface of chemistry and chemical engineering, linguistic issues, E-chem tests and also chemistry as central science.

Ulrich Schubert, President Elect of EuCheMS, John Cordish, deputy of IUPAC and the head of the project, Anthony Smith, were the main speakers at the opening ceremony. Young chemists from the Faculty of Natural Sciences and the University of Palermo presented two Magic Shows and several high school students were awarded for their results at different chemistry competitions.

One of the lectures was dedicated to the 225th anniversary of the first International Scientific Congress which took place in 1786 in Sklené Teplice, Slovakia.

Participants of the meeting were also welcomed by the mayor of the city, Milan Ftáčnik. He stressed that welcoming the participants during the International Year of Chemistry in the city hall will be forever recorded in the city hall annals, and in this way the participants of the meeting will be part of the history of Bratislava.

Marta Sališová

Events 2011

11 – 14 September 2011, Namur, Belgium

International Symposium on Advanced Complex Inorganic Nanomaterials (ACIN 2011)
<http://webapps.fundp.ac.be/acin2011/homepage.php>

11 – 15 September 2011, Belgrade, Serbia

Euroanalysis XVI, www.euroanalysis2011.rs

11 – 15 September 2011, Zurich, Switzerland

EuCheMS International Conference on Chemistry and the Environment (ICCE2011), www.icce2011.org

13 – 16 September 2011, Novara, Italy

First International Congress on Cocoa, Coffee and Tea
www.cocotea2011.org

14 – 16 September 2011, Madrid, Spain

9th Green Chemistry Conference (9GCC)
www.iuct.net

14 – 16 September 2011, Rostock, Germany

8th International Conference on History of Chemistry
 “Pathways of Knowledge”
www.gdch.de/ichc2011

5 – 7 October 2011, Milan, Italy

CHEM-MED 2011 Conference
www.artenergy.it/pages/conf_en.asp

Events 2012

5 – 11 August 2012, Wales, UK

EUChem Conference Molten Salts and Ionic Liquids
 Email: euchem2012@qub.ac.uk

26 – 30 August 2012, Prague, Czech Republic

4th EuCheMS Chemistry Congress
www.euchems-prague2012.cz

EuCheMS Roadmap for the Chemical Sciences

With the support of experts from its member societies, EuCheMS has identified five key areas that should be priorities in the EU Research Framework Programme 8: breakthrough science, food, energy, health and resource efficiency. Over recent months EuCheMS has been developing the Roadmap for the Chemical Sciences, to identify the critical areas where gaps in knowledge are limiting technological progress and where the chemical sciences have a role to play in bridging these gaps.

A first copy of this roadmap has been put together with input from stakeholders across Europe and EuCheMS now welcomes the input of its divisions on this document. ks

Full document at www.euchems.org/News/EuCheMS_Chemistry_Changing_World.asp

Women in chemistry: a book recommendation

Short profiles of over 50 remarkable European women chemists, from the early pioneers to the present day, feature in the new book “European Women in Chemistry” conceived by EuCheMS to mark the International Year of Chemistry 2011. The book looks at the scientific stories as well as the personal sacrifices and societal opposition that many of these great women scientists had to overcome. The chemists range from Nobel Laureates Marie Curie, Ada Yonath and Dorothy Crowfoot Hodgkin to women whose reputations are not so well known but whose contributions have been vital.

Edited by Jan Apotheker and Livia Sarkadi, the book can be ordered online at <http://eu.wiley.com/WileyCDA/>. eme

EuCheMS Newsletter



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