

## Commemorating the first victims of chemical weapons

22 April 1915 marked the first large scale introduction of chemical weapons in warfare, when chlorine gas was released into enemy trenches near Ypres, Belgium. Since that time many hundreds of thousands of people have been killed or injured by chemical weapons. As recently as 2012, chemical weapons were used in the current Syrian conflict.

100 years after the first use, on 21 April 2015, Ambassadors to the Organisation for the Prohibition of Chemical Weapons (OPCW) gathered in Ypres to commemorate those who have died as a result of these awful agents, to present a commemorative plaque to the town of Ypres, to reveal a new declaration on chemical weapons, the Ypres Declaration, and to review progress in eliminating these weapons.

Chemists were represented by Thomas Geelhaar (President of the Gesellschaft Deutscher Chemiker), David Phillips (a past President of the Royal Society of Chemistry) and David Cole-Hamilton (President of EuCheMS). They called for a complete world-wide ban on chemical weapons and for no chemist to take part in their development or deployment.

Following presentations by regional representatives of the Organisation for the Prohibition of Chemical Weapons, the Defence Minister of Belgium, a representative of the UN Secretary General and the Mayor of Ypres, the plaque was unveiled and the Ypres Declaration read out. Delegates then



David Phillips (RSC, left), David Cole-Hamilton (EuCheMS, middle) and Thomas Geelhaar (GDCh) in front of the plaque commemorating those who have died as a result of the use of chemical weapons.

moved to the Menin Gate for the last post and a bagpipe lament. It was a very moving occasion where it was very important that chemists showed that they are totally opposed to the use of chemical weapons.

The Organisation for the Prohibition of Chemical Weapons, which justly won the Nobel Peace Prize in 2013, is renewing its efforts to complete the total elimination of chemical weapons. Of 196 countries in the world, 191 have signed and ratified the treaty which means they must disclose and dispose of all stockpiles of chemical weapons, the most recent being Syria in 2012 and Myanmar (Burma) in 2015. Israel has signed but not ratified whilst Angola, Egypt, North Korea and Southern Sudan have not signed.

However, we were sharply reminded that some chemicals which have perfectly innocent uses, such as chlorine for water treatment, can be misused as chemical weapons. A few days before the commemoration, barrel bombs containing chlorine were dropped from a helicopter in Syria, reminding us that such chemicals must be kept under strongly controlled conditions.

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## Zero carbon energy

As an early contribution to the European Sustainable Energy Week, EuCheMS, the Royal Society of Chemistry and the Royal Society of Edinburgh jointly organised a conference on “Zero Carbon Energy – The Future” at the Royal Society of Edinburgh on 27 May.

About 50 people were addressed by world experts in the field. After the opening words of David Cole-Hamilton, EuCheMS President, Mercedes Maroto-Valer (Heriot-Watt University, Edinburgh) introduced the “Energy Trilemma”: Resources of fossil fuels are running out, their use is causing global warming and many places that have reserves of fossil fuels are politically delicate, leading to worries about the security of supply. She went on to discuss methods for reutilising CO<sub>2</sub> in fuel manufacture.

Mohammad Khaja Nazeeruddin (EPFL, Lausanne) then spoke about dye-sensitised solar cells of which he is one of the inventors, along with Michael Grätzel. The transparency of such cells allows them to be used as windows with variable colours. These cells have been commercialised and efforts are now being made to improve their efficiency.

James Durrant (Imperial College London) talked about systems which allow sunlight to decompose water directly into hydrogen and oxygen. Recent research has shown that efficiencies as high as seven percent are possible. Ten percent would allow all the world’s energy needs to be met by the amount of sunlight falling on an area the size of Libya.

Peter Wasserscheid (University Erlangen-Nuremberg) talked about a new process for storing hydrogen by reaction with aromatic hydrocarbons that are already used commercially as heat transfer fluids. Such a fluid with six percent hydrogen can easily be transported in current gasoline handling equipment. This might have great potential for use in mobile applications such as trucks and cars. Each lecture was followed by a lively discussion. EuCheMS thanks Bristow Muldoon (Royal Society of Edinburgh) and Mindy Dulai (Royal Society of Chemistry).

Nineta H. Majcen



## EuCheMS and ENMIX

At the EuCheMS General Assembly 2014, the European Nanoporous Materials Institute of Excellence (ENMIX) was approved to become a supporting member of EuCheMS.

ENMIX is a non-profit organisation arising from the EU-FP6 Network of Excellence "In situ study and development of nanoporous materials". ENMIX was an appropriate measure to secure the established contacts and constitutes an attractive platform for research organisations, governmental bodies and industry. It acts as a unique and international competence and knowledge center for research and consultation in the field of nanoporous materials. Application of nanoporous materials can play a pivotal role in solving problems such as increasing energy demand, limited fossil feedstocks, global warming and environmental pollution. The strength of ENMIX lies in the integrated approach covering all fields from the synthesis and characterization of materials to their final application. Another objective of ENMIX is to strengthen European industry and to contribute to its global competitiveness.

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## Evonik and EYCN cooperate

The European Young Chemists' Network (EYCN) signed a three-year cooperation agreement with Evonik Industries at the 10th Delegate Assembly in Berlin in April. The agreement provides travel grants and internships for members of EYCN while allowing Evonik Industries to present itself to young scientists as an employer in EYCN's media activities. This agreement between European academics and industrialists is a rather new experience. EuCheMS President David Cole-Hamilton says: "This will set an example for others and create good opportunities to promote exchange of knowledge, expertise and experience. It is the first agreement of its kind, but we hope not the last." EuCheMS is confident that this and future similar agreements will represent a positive channel of communication between academia and industry. *kjs/EuCheMS*

## ECTN General Assembly in Ljubljana

The European Chemistry Thematic Network (ECTN) held its General Assembly in Ljubljana, Slovenia, on 27 to 29 April, together with the 19th Annual Meeting of the European Chemistry and Chemical Engineering Education Network (EC2E2N2).

During the event a Memorandum of Understanding between EuCheMS and ECTN (see EuCheMS newsletter May 2015) was signed by the presidents of the two associations, Francesco de Angelis (ECTN) and David Cole-Hamilton (EuCheMS). Also, Pavel Drasar (Czech Chemical Society) was elected the new President of ECTN, following de Angelis, who becomes vice-president. Thirdly, the ECTN held a joint session with their partner agencies ASIIN (Germany), UKA (Poland), the Italian Chemical Society and ANECA (Spain) for the award of Eurolabels. The General Assembly was also the occasion for five new working groups of ECTN to begin work.

The EC2E2N2 project is coming to the end of its three year funding period. After 19 years of continuous funding from the



*Francesco de Angelis (ECTN, left) and David Cole-Hamilton (EuCheMS) signed a Memorandum of Understanding between ECTN and EuCheMS.*

European Commission Erasmus programme, there will be no opportunity to apply for further funding. The project has created seven working groups dealing with a wide range of topics, e.g. sustainable entrepreneurship, the impact of chemistry on everyday life and virtual education. All groups will be making their final reports before the end of 2015.

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## Policy News

### Round table on science policy

Ulrich Schubert, EuCheMS Vice-President, participated in a round table on "Influencing EU science policy" at the European Physical Society Council 2015. Schubert spoke about how EuCheMS provides policy input through workshops organised for EU officials and Members of European Parliament.

### (Re)searching for jobs

The event "(Re)searching for jobs", organised by EuCheMS in Brussels on 2 June, brought together academia, industry, policy-makers and citizens to discuss the many barriers that young researchers face when entering the labour market. After the opening words of MEP Catherine Stihler, EuCheMS President David Cole-Hamilton provided his view on how universities can embed transferable skills in their courses and allow young students and researchers to make the best out

of their degrees. Following presentations by invited speakers many questions arose from the audience on how to develop further the quality of curricula and teaching.

### Changes to Juncker Plan

There is encouraging news regarding the reallocation of Horizon 2020 Funds to a European Investment Fund, the so-called Juncker Plan. Following pressure from the scientific community, amongst others from EuCheMS, and other negative feedback, the European Commission presented a new proposal safeguarding funding for ERC, Marie Skłodowska-Curie actions and the programme "Spreading excellence and widening participation", even though cuts will be made to the budget. The proposal will still have to be approved by the European Parliament and the Council of the European Union.

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## Women ahead as presidents

**Margaret Franklin** was elected President of the Institute of Chemistry of Ireland for a period of two years. Margaret Franklin obtained her Master of Science at University College Dublin. In 1975 she took up a lecturing position at Athlone Regional Technical College (now Athlone Institute of Technology, AIT). She retired from her position as senior lecturer in inorganic chemistry in 2009 and concentrated in the work for the Institute of Chemistry of Ireland. She was elected vice-president in 2013. During her time at AIT, she had a major input into the development of the chemistry programmes and helped to establish the Eurachem Analytical Measurement Competition, which is a contest in laboratory skills open to undergraduate chemistry students in Ireland.



**Christina Valanidou** was elected President of Pancyprrian Union of Chemists. Born in Nicosia, Cyprus, she studied chemistry at the National and Kapodestrian University of Athens. She received her Master of Science at the Albany State Uni-



versity, New York, and her PhD on Pedagogy at Patra's University in Greece. For several years she worked as a teacher and principal of school in Cyprus. As cultural attaché and counsellor she was the representative of the Ministry of Education and Culture in the Permanent Representation of the Republic of Cyprus in the EU in Brussels. Christina Valanidou is a member of various social, academic, political and trade union bodies and has worked in youth, students and women's organisations.

**Luísa Margarida Martins** was elected President of the Portuguese Electrochemical Society. She graduated in Chemical Engineering in 1990 and received her PhD in Chemistry in 1996, both at the Technical University of Lisbon. In 1996 she was appointed as adjunct professor at the Chemical Engineering Department of Polytechnic Institute of Lisbon and is also the vice-president of this department. Luísa Margarida Martins has been a researcher at the University of Lisbon since 1992. She is author of more than 75 peer-reviewed papers and over 150 conference presentations.



### HCS: Sarkadi re-elected

At the General Assembly of the Hungarian Chemical Society (HCS) in Budapest on 15 May the general election was held. At the beginning Attila Kovács, General Secretary, summarized the achievements in the last four years: Sixty percent increase in the membership of young chemists (age 35 or below) is significant progress as a result of the efforts taken towards the younger generation. Livia Simon Sarkadi (Corvinus University of Budapest) was re-elected as President of HCS for the term 2015 to 2019. István Pálincó (University of Szeged) follows Attila Kovács as General Secretary, and Csaba Szántay jr. (Gedeon Richter Ltd.) and Tamás Kiss (University of Szeged) will act as vice-presidents. The General Assembly was closed by an award ceremony.

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### Congratulations to twelve IUPAC distinguished women

The twelve awardees of the IUPAC 2015 Distinguished Women in Chemistry or Chemical Engineering have now been revealed. The awardees have been selected based on excellence in basic or applied research, distinguished accomplishments in teaching or education, or demonstrated leadership or managerial excellence in the chemical sciences. EuCheMS congratulates all the awardees and is very pleased to see that EuCheMS supported nominees have received the award. The award ceremony took place during the IUPAC World Chemistry Congress in Busan, Korea, in August. A list of the awardees is published on the IUPAC website.

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### Talking about energy

The Energy Science & Technology International Conference and Exhibition (EST) took place in Karlsruhe, Germany, from 20 to 22 May. Over 600 participants from all over the world attended the event. EST 2015 merged similar existing initiatives at the European level, such as the European Energy Conference (E2C) series, co-organised by EuCheMS since 2010. The key idea was to make a single big European event with the highest possible degree of multidisciplinary – e.g. chemistry, physics, engineering, biology and other disciplines – in order to promote a tighter interaction between the academic and the industrial sector and to discuss both scientific and technological aspects of the ongoing energy transition.

Plenary lectures at EST 2015 were focused on key technological drivers of the energy mix transformation and on the decarbonisation of the energy system, in the light of the last IPCC report. A public evening lecture by Dieter Zetsche, Chairman of the Board of Directors of Daimler and Head of Mercedes-Benz Cars, was attended by over 1000 people and outlined the future of car transportation.

Chemists gave a crucial contribution to the success of EST 2015, particularly in the area of photovoltaic and magnetic materials, hydrogen production and storage, fuel cells and biomass conversion.

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### Prize to Malcolm L. H. Green

The first European Prize for Organometallic Chemistry was awarded to Malcolm L. H. Green, Emeritus Professor at Oxford University. This prize of 5000 Euro was created by the EuCheMS



Division of Organometallic Chemistry and is to be awarded every two years for a single piece of outstanding work or for a body of outstanding work primarily done in Europe. The Prize ceremony and a lecture by the winner took place on the occasion of the 21st European Conference on Organometallic Chemistry in Bratislava in July.

kjs/EuCheMS

## European Employment Survey

The report of the European Employment Survey for Chemists and Chemical Engineers 2013 was published in *Chemistry – A European Journal*. It provides insights into the structure of the European chemical workforce and in variations in salaries between several European countries. The shares of graduation disciplines and the most targeted qualification levels vary distinctly among countries.

The report also provides a comparison between the preferences of chemical graduation disciplines and the availability of jobs in these disciplines. The importance of employer sectors and industry sectors varies among European countries. The data provide important clues for the chances in the job market in particular countries and in Europe as a whole.

Another topic investigated was continuing education. It turned out that most chemists never attended a single event in continuing education, whereas a particular group repeatedly participates.

The results of the survey were presented at a EuCheMS event in Brussels in June. The report is available at <http://onlinelibrary.wiley.com/doi/10.1002/chem.201501364/full>.

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## New initiative for antibiotics

The Community for Open Antimicrobial Drug Discovery (CO-ADD) is a not-for-profit initiative funded by the Wellcome Trust and The University of Queensland (Australia). The goal is to combat the superbug crisis. CO-ADD performs primary antibacterial screening for academic research groups from anywhere in the world for free. Only 1 mg of a compound is needed for the screening, the researchers do not need to provide a structure. No claim on results or Intellectual Property is made.

In the primary screening CO-ADD tests against five key pathogens. In case of any hits here the compound can be re-screened against more specific panels. With hits the organisation back screens for cytotoxicity.

Participants have 18 months to publish or patent positive hits. After this period the data will be made available in an open access database.

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## Events 2015

**2 – 4 September 2015, Évora, Portugal**

International Symposium on Synthesis and Catalysis  
<http://isysycat.eventos.chemistry.pt>

**5 – 9 September 2015, Camerino, Italy**

International School of Organometallic Chemistry  
<http://d7.unicam.it/isoc>

**6 – 10 September 2015, Bordeaux, France**

EuroAnalysis 2015, [www.euroanalysis2015.com](http://www.euroanalysis2015.com)

**9 – 12 September 2015, Aveiro, Portugal**

Chemical Biography in the 21st Century  
<http://10ichc-2015.web.ua.pt>

**13 – 17 September 2015, Beaune, France**

6th EuCheMS Conference on Nitrogen Ligands  
[www.nligands2015.com](http://www.nligands2015.com)

**14 – 18 September 2015, Catania, Sicily, Italy**

1st European Conference on Physical and Theoretical Chemistry, [www.1stphyschemconference.unict.it](http://www.1stphyschemconference.unict.it)

**20 – 24 September 2015, Kalamata, Greece**

IMA 2015, Instrumental Methods of Analysis – Modern Trends and Applications, [www.ima2015.teikal.gr](http://www.ima2015.teikal.gr)

**21 – 25 September 2015, Gdansk, Poland**

58th Annual Scientific Meeting of the Polish Chemical Society, <http://ptchem2015.ug.edu.pl>

**22 – 25 September 2015, Leipzig, Germany**

15th EuCheMS International Conference on Chemistry and the Environment, [www.icce2015.org](http://www.icce2015.org)

**4 – 7 October 2015, Lisbon, Portugal**

2nd EuCheMS Congress on Green and Sustainable Chemistry, <http://web.ist.utl.pt/~jnlopes/2EUGSC>

**13 – 16 October 2015, Madrid, Spain**

Euro Food Chem, [www.ictan.csic.es/eurofoodchem2015](http://www.ictan.csic.es/eurofoodchem2015)

**21 – 23 October 2015, Braga, Portugal**

20th Meeting of the Portuguese Electrochemical Society, [www.quimica.uminho.pt](http://www.quimica.uminho.pt)

## European Young Chemists' Network elected a new board

Every year, the European Young Chemists' Network (EYCN) organises a meeting with all representatives from its member societies: the EYCN Delegates Assembly. This year, it took place from 8 to 12 April in Berlin, Germany. Prior to this 10th Delegates Assembly, a one-day chemistry symposium was celebrated. During the assembly a new board (photo) was elected. The new board thanks their predecessors for all the work during their mandate and for their unconditional support. The new board also thanks Evonik Industries for signing a contract that makes them partners of EYCN for the next three years.

Fernando Gomollón-Bel, [chair@eycn.eu](mailto:chair@eycn.eu)



The new board (from left): Michael Terzidis (Greece, Network team), Oana Fronoiu (Romania, Scientific team), Fernando Gomollón-Bel (Spain, Chair), Camille Oger (France, Secretary), Sarah Newton (UK, External Communication) and Emanuel Ehmki (Austria, Membership team).

### EuCheMS Newsletter



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