



IWWG News & Views

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In this issue: Report on the 4th International Conference on Industrial and Hazardous Waste Management – CRETE 2014, a report on aims and activities of the IWWG Task Group on WEEE, announcement of IWWG-ARB 2015 – Second Symposium of the Asian Regional Branch, announcement and call for abstracts of the 15th International Waste Management and Landfill Symposium – SARDINIA 2015 and details on future IWWG events.

CRETE 2014 – A report on the 4th International Conference on Industrial and Hazardous Waste Management. Chania, Crete, Greece, 2–5 September, 2014

At the beginning of September 2014, the 4th International Scientific Conference on Industrial and Hazardous Waste Management “CRETE 2014” was successfully held in Chania, Crete, Greece, under the collaboration of the Technical University of Crete (GR), the University of Padua (IT), the Hamburg University of Technology (DE) and the International Waste Working Group – IWWG.

More than 350 participants from 45 different countries attended the well-established international meeting for scientists, specialists and practitioners. The conference program included 233 oral presentations, organized in 33 general sessions, 15 workshops and 2 special sessions in Greek language, as well as poster presentations, covering all aspects of hazardous wastes characterization, management and treatment. Furthermore, 3 training courses were arranged by IWWG, covering landfilling and leachate related issues.



Opening session of the CRETE 2014 Symposium

Special keynote lectures were provided by internationally acknowledged scientists on the issues of chemical weapons, ongoing climate changes and environmental risks originating from wastes and wastewaters. Dr. Ralf Trapp, an international Disarmament Consultant, opened the conference by his keynote speech. He explained that, according to past experiences and current challenges, the dismantling of chemical weapons is a complex and in some respect long-term, process. However, while the 20th century was the century

of chemical warfare, the 21st century is, according to his personal opinion, becoming the century of global chemical weapons disarmament.



Prof. R. Stegmann, Prof. R. Cossu and Dr. R. Trapp (left to right)

Following, Prof. Hartmut Grassl, from the Max Planck Institute for Meteorology of Germany, focused on the nexus between climate and



Prof. H. Grassl presentation during the Conference

air pollution, but also on the debate about natural influences on observed climate changes and the major probability to reach the 2 °C goal.

Particular attention was also focused on the keynote speeches of Prof. Rainer Stegmann from the Hamburg University of Technology and Prof. Raffaello Cossu from the University of Padua. Both scientists pointed out the need of a systematic management, not only of the insidious toxification of the environment, but also of anthropogenic resources stocks and waste, in the view of long term environmental protection, resource conservation and economic benefits. In particular, Prof. R. Stegmann directed the attention to the quantification of the residual emissions from waste, waste water and off-gas treatment plants.

Finally, the speech of Prof. Gerasimos Lyberatos from the National Technical University of Athens focused on hexavalent chromium, its impacts and its removal from groundwater and wastewater, using bioreactors. Two special sessions that were held in Greek focused on the prevailing situation of hospital and hazardous waste management in Greece. Several representatives of different relevant governmental and local authorities, as well as the Hellenic scientific community were present, exchanging experiences, pinpointing problems and shortages and suggesting optimum action plans.

In parallel to the Conference, two poster exhibitions on “Sea Waste Contamination” and “Environmental Effects of War Weapons” were prepared and presented by the Technical University of Crete.



Exhibition on “Sea Waste Contamination” during CRETE 2014

As every two years, a three-member committee consisting of Prof. Pinjing He, Prof. Evangelos Diamadopoulos and Prof. Karl Lorber evaluated all posters displayed during the Conference and an award was given to the best three:

1. “Using Bioassays to Assess the Extent of Bioremediation of a Petroleum Sludge Land Farming Site” by A.J. Reinecke, S.A. Reinecke, M. Van Wyk from Stellenbosch University of South Africa.

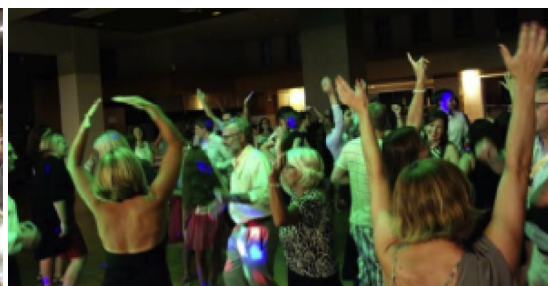
2. “Non Conventional Biodegradation Treatment by Fungi for the Removal of Selected Pharmaceuticals from Effluents” by D. Lucas, S. Rodriguez- Mozaz, L. Ferrando - Climent, C. Cruz - Morató, M. Badía, E. Marco Urrea, G. Caminal, T. Vicent, M. Sarrà, D. Barceló from Catalan Institute for Water Research (ICRA) of Spain.
3. “Electrokinetic Removal of Toxic Metals and PAHs from Contaminated Sediments Using a Big Cell and Periodic Electric Potential” by A. Latsos, J. Hahladakis, E. Gidarakos from Technical University of Crete of Greece.

The highlight of the Conference was the round table discussion regarding the “Effects of Wars in the Environment” where experts have emphasized the scientific approach of the war activities. Prof. Rainer Stegmann chaired the discussion with the participation of Prof. Evangelos Gidarakos, Prof. Hartmut Grassl, Dr. Ralf Trapp, Dr. Predrag Jovanic from University of Belgrade and a representative of the Organisation for the Prohibition of Chemical Weapons (OPCW), Mrs. Elena Petre. A special attention was given to the recent neutralization of the Syrian chemical weapons that took place on board of a ship, in a pilot scale unit at the Mediterranean Sea, raising the utmost public concern of citizens from the adjacent countries.



Round Table discussion at the end of the conference

In addition to the Scientific Program of the Conference, participants had the opportunity to join several Social Events, which proved to be very successful and enjoyable, too. Traditional Cretan night with music and folk dances was organized at the Orthodox Academy of Crete, located in Kolimbari, while some participants seized the unique opportunity to have fun during a sailing day tour around Crete and visit the exotic beach of Elafonisi at the northern Crete. All participants were invited to attend the Gala Dinner, after the closing ceremony. A demonstration of Cretan dancing and local delicacies were provided until the first morning hours, with no participant willing to leave the Gala dancing floor.



Dancing during the Gala Dinner



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Leader of the IWWG Task Group 'WEEE' - Waste Electrical & Electronic Equipment.*

CRETE Conference Series, 8 years after its begging, has managed to represent a prosperous international meeting opportunity for scientists and practitioners that work on the field of industrial and hazardous waste management. It is unique on its kind; it constantly increases its scientific status and combines science with pleasure in the magnificent scenery of Crete.

IWWG Task Group on WEEE: Background, aims and activities

Waste Electrical and Electronic Equipment (WEEE) is one of the fastest growing waste streams as a consequence of the globally increased consumption of these products. Both the hazardous components containing Hg, PCBs, brominated flame retardants and other pollutants and the valuable materials like copper, aluminium and precious metals make it a complex waste stream. However, even though non-homogeneous and complex, WEEE offers a considerable potential as a future metal resource for European industry. Currently, the recycling of WEEE can be divided into collection, disassembly, pre-treatment and refining. Each stage comprehends major challenges, like losses of WEEE via conventional waste treatment or illegal waste exports. One technological challenge is that State-of-the-Art recycling processes: Mainly focus on metal like copper and ferrous metals, while precious metals and rare earth metals are not considered. As precondition for an efficient recovery, the mechanical pre-treatment needs to be adjusted. An optimised refining process is the final step to recover the metals and supply European industry.

Due to the complexity of the process, the optimisation of single stages might be determined by a certain technology, e.g. refining, only available on the global level. Therefore, recovery of critical metals from WEEE cannot be conducted isolated on a national level. The manifold challenges require experts from all recycling stages along the complex recovery processes. An interdisciplinary, transnational alliance is essential, including engineers, chemists, biologists and toxicologists.

Accordingly the creation of a network among scientific communities from different European countries and scientific disciplines is required to ensure the necessary interdisciplinary approach for the identification, development and implementation of effective WEEE recovery processes.

Through the last years practical experience has been gained in collection and recycling, but there is a lack in scientific analysis from a waste management perspective. Partly this is reasoned by the interdisciplinary nature of the topic – a typical expert in electronics has usually no experience in waste management and vice versa.

The required enlargement of the scientific basis may be provided by the IWWG Task Group on WEEE. Some of the current activities are associated with the establishment of a better database on generation, composition and handling of WEEE in a global perspective. Moreover, the group aims at an exchange of experience from various regions about the impacts of WEEE on collection, recycling and disposal (e.g. additional load of pollutants from WEEE in municipal waste streams).

The latest TG meeting took place with the participation of eight members on the 4th International Conference on Industrial and Hazardous Waste Management on Crete. A project in Serbia was presented and the participating of the task group as advisory board in this project was discussed. In future relevant data of metal concentrations in WEEE will be brought together in a database linked with the task group website. Changes in the WEEE management situations in Austria, Germany, Greece and Serbia wear summarized.

If you are interested to join the Task Group please contact the TG board which consists of two TG leaders since September 2014. Contacts and additional information on the group are provided through the IWWG website (www.iwwg.eu).

IWWG-ARB 2015 – Second Symposium of the Asian Regional Branch of International Waste Working Group

The IWWG-ARB aims to initiate and spread the idea and strategy of the IWWG particularly in the Asian region. Based on the IWWG Regional Branch establishment procedure, a founding committee was formed by Toshihiko Matsuto (Hokkaido University, Japan), Jae Young Kim (Seoul National University, Republic of Korea), and Pin – Jing He (Tongji University, China), who are members of either the Managing Board and/or Scientific Advisory Panel of the IWWG. Starting from these three countries, ARB activities will extend to other Asian countries. The initial activity of the ARB was the establishment of a symposium, which will be in turn hold in Japan, China and Korea. The 1st IWWG – ARB Symposium was successfully opened in Hokkaido University, Sapporo, Japan, in March 2013.

The 2nd Symposium organized by the IWWG Asian Regional Branch (IWWG-ARB 2015) will be held in Shanghai, China, from 12th to 15th of April, 2015.

The event is expected to explore and strengthen the network among Asian Researchers in the field of Solid Waste Management, as well as the world's concerns on Asian waste. The Symposium will include a Training Course on practical and technical aspects of waste management, C & D waste, landfill and recycling, to be held on the afternoon of 12th April. The course addresses particularly consultants, designers, engineers, officials, young teachers



and researchers. Participants will get a Certificate issued by IWWG, signed by the responsible person of IWWG and IWWG-ARB.

Moreover, a Technical Tour to Shanghai Laogang Solid Waste Treatment Center (landfill site and incineration plant) is provisionally arranged on 15th April.

IWWG members are entitled to a 10% discount on regular and student fees for both Symposium and Training course. Training course is free for registered participants who complete the payment. Applications for training course will be considered on a first come-first served basis. For further enquiries and registration please contact the Conference Secretariat (iwwg-arb@tongji.edu.cn). Constantly up-dated information on the symposium are available from the website (<http://iwwg-arb-tongji.com>).

15th International Waste Management and Landfill Symposium – SARDINIA 2015

Following the great success of the fourteenth edition held in 2013, which saw the participation of more than 700 delegates from a wide variety of countries worldwide, Sardinia 2015 promises to be the largest event of the year in the field of Waste Management and Landfilling.

The 2015 edition of the conference will be held in the traditional venue of the Forte Village Resort at S. Margherita di Pula (Cagliari, Italy) and is expected to register the participation of up to 1000 delegates from dozens of different countries worldwide. In line with tradition, the 15th edition of the conference will focus

on advances in the field of Waste Management science and technologies, presenting case studies and discussing key controversial subjects, sharing experiences from different countries, and assessing social and economical balances.

The Symposium will include general oral presentations, specialized sessions and specialist workshops for a total of eight parallel tracks, poster sessions and a number of parallel events. Prior to the start of the Symposium, training courses will be offered by IWWG.

Organizations, associations and companies are traditionally welcome to have their internal meetings during the event, with the support of the Symposium Secretariat.

The Call for Abstracts is open until January 31st 2015. Abstracts submitted for presentation will undergo a thorough selection process carried out by world leading waste management experts, represented by the Symposium International Advisory Board and Executive Programme Committee. All final papers accepted to Sardinia 2015 will be published on a dedicated volume and submitted to Scopus and Thomson ISI (ISTP, CPCI, Web of Science) for indexing.

Additionally, a considerable number of leading papers selected by the Symposium Scientific Committee will be processed, eventually following revision and updating, for publication on special thematic issues of Waste Management, the scientific journal with the highest IF (3.157) in the field, published by Elsevier. Other accepted papers, featuring a more practical orientation, will be considered for publication on IWWG Monographs on selected conference topics (CISA Publisher, ISBN classification).

For further and up-dated information please visit the symposium website (www.sardiniasymposium.it) or contact the Organising Secretariat EUROWASTE srl (nfo@eurowaste.it) (www.eurowaste.it).



Participants of the opening session during the SARDINIA 2013 symposium

Future IWWG events

If you are looking for more information on past, present and future events, organized or co-organized by the IWWG, visiting the IWWG website is the straight tip (www.iwwg.eu/activities-events). Here you may find an event calendar, offering a well-structured overview on our events during the previous, present and next year, detailed information on individual conferences or symposia as well as links to the accordant conference websites. For a couple of events comprehensive reports as well as selected photographs are available from the same address.

For 2015, the following events organized or co-organized by the IWWG are scheduled:

- WasteSafe 2015 – IV International Conference on Solid Waste Management in Developing Countries, 15–17 February 2015, Khulna, Bangladesh (www.wastesafe.info).

- IWWG-ARB 2015 – Second IWWG Asian Regional Branch Symposium, 12–15 April 2015, Shanghai, China (<http://unep-iesd.-tongji.edu.cn/index.php?classid=178&newsid=1699&t=show>).
- GRAL 2015 – IV International Conference on Waste Management in Latin America, 24–26 June 2015, Antigua, Guatemala (<http://www.gral2015guatemala.tk/>).
- SARDINIA 2015 – XV International Waste Management and Landfill Symposium, 5–9 October 2015, S. Margherita di Pula, Cagliari, Italy (www.sardiniasymposium.it).

For further information on IWWG activities, please:

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