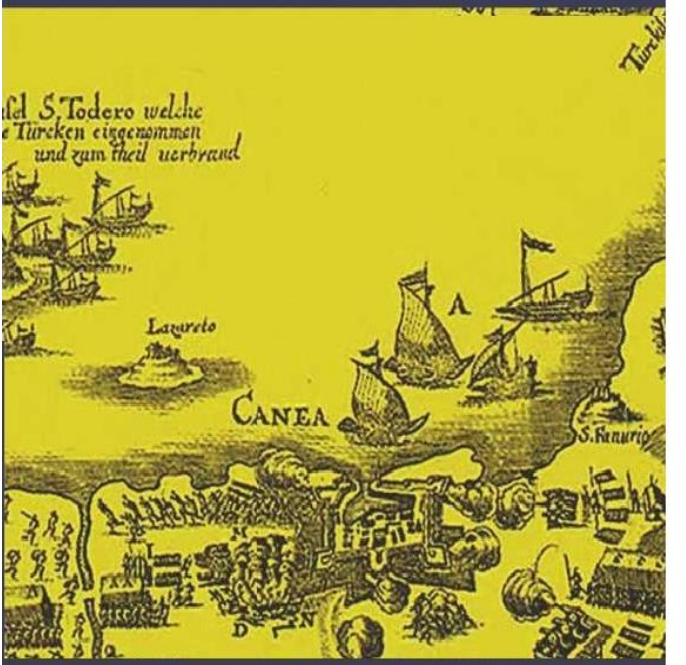
CRETE|2014

4th International Conference

Industrial and Hazardous Waste Management

September 2nd-5th 2014
Chania | Crete | Greece



CONFERENCE PROGRAMME

CRETE 2014

4th International Conference on Industrial and Hazardous Waste Management

2-5 September 2014,
Chania, Crete, Greece

Organized by:
Technical University of Crete (GR)
University of Padua (IT)
Technical University of Hamburg (DE)
International Waste Working Group -IWWG

Sponsored by:
Hellenic Petroleum S.A. (GR)
Region of Crete (GR)
Helector S.A. (GR)

PRESENTATION

Industrial and hazardous waste (IHW) represents a large and often rather difficult to manage fraction of waste generated worldwide. Its properties impose the need for a special and careful management with a high responsibility in order to protect human health as well as flora and fauna. Starting from proper waste collection and characterization, industrial and hazardous waste management includes extensive and continuous research for the further development of effective avoidance, recycling and treatment strategies and methods.

In many countries the industry still needs clear targets, timelines and greater understanding of the waste stream and their compositions as well as the associated risks. It is important to introduce worldwide the concept of the producer responsibility. In DCs industry should respect the same standards for IHW management as existing in all other countries, and costs have to be paid through the sold products.

CRETE Conference series on “Industrial and Hazardous Waste Management” has established itself as an international meeting point for scientists and practitioners that work in the field of industrial and hazardous waste management. During a large number of oral and poster presentations, actual and profound knowledge and experiences are discussed in order to further develop and improve the knowledge in this field. Many of this information can be applied directly in order to solve IHW problems worldwide.

THE CONFERENCE STRUCTURE

CRETE 2014 focuses on innovative aspects of Industrial and Hazardous Waste Management, presenting new technologies, describing the state of the art and related case studies, discussing main controversial subjects and valuating social and financial balances.

The Conference will last four days (three days of scientific sessions and one day for training courses) and will include oral presentations, sessions, IWWG workshops and sessions in Greek, as well as poster presentations. The official language of the Conference will be English. Selection of papers and session destination are based on various factors, including relevance of the topic, nature of the paper (case study, preliminary work, conceptual work, design, etc.), specificity of the topic and novelty.

The Conference is organized in five parallel sessions for oral presentations containing four to five or six papers. Two training courses will be arranged by IWWG prior to the opening of the Conference and one training session will be scheduled in the Program, covering the following themes: leaching assessment, LeachXS program, criteria for landfill Class I, EASETECH Model. Also, a round table discussion will take place at the end of the Conference about the effects of wars on the environment.

Conference Chairmen

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PELLERA Frantseska- Maria,
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XRYSIKOS Giorgos,
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Conference Venue and Location

The 4th International Conference on Industrial and Hazardous Waste Management, CRETE 2014, will be held in the conference facilities of the "Avra Imperial Beach Resort & Spa" Hotel, which is located in the scenic seaside village of Kolympari, 23 km west of Chania.

Continuously updated information available on the Web site: http://hwm-conferences.tuc.gr/

DAILY PROGRAMME

14:00 – 20:00 **Registration**

IWWG TRAINING COURSES

14:00 – 17:00

I. LEACHING ASSESSMENT AND LEACHXS

Dr. Hans Van der Sloot,
International Energy Research (NL)

18:00 – 21:00

II. EXPERIENCES WITH LANDFILL CLASS I FOR HAZARDOUS WASTES

Prof. Gerhard Rettenberger,
Technical University of Trier (DE)

20:00 – 23:00

Welcome ceremony at the AVRA IMPERIAL HOTEL

OPENING SESSION

07:30 – 10:00 **Registration**

09:00 – 10:00
Introduction and Welcome Address
***Room* - MAISTRO**
Chairmen: E. Gidarakos (GR)
R. Cossu (IT)
R. Stegmann (DE)

10:00 – 11:00 **Keynote Speakers**

Dr. Ralf Trapp
International Disarmament Consultant (FR)
"The Elimination of State Chemicals Weapons Programs - Past Experiences and Current Challenges"

Prof. Hartmut Grassl
Max Planck Institute for Meteorology (DE)
"Ongoing Climate as a Waste Problem"

11:00 – 11:30 Coffee Break

11:30 – 13:30 ***Room*** **– MAISTRO**

SESSION A1

Regulation and Legislation on Hazardous Industrial Waste

Chairman: H. Grassl (DE)

A1.1.

The Australian regulatory approach for some hazardous materials in common usage

M. THOM, J.M. NASH (AU)

A1.2.

Review on the legislation about hazardous industrial waste in the European union

Z. NIVOLIANITOU (GR)

A1.3.

Regulations and law-enforcement of hazardous waste handling in Norway

M. SUNDSVIK BENDIXEN (NO)

A1.4.

Waste factors for the small-scale industry in Mexico city

A.VÁZQUEZ-MORILLAS, A. GONZÁLEZ-ARAGÓN, A. DE LA L. CISNEROS-RAMOS, R. M. ESPINOSA-VALDEMAR (MX)

A1.5.

Analysis of the proper disposal of waste from oil spill incidents

P.F.I. LEMOS, A.C.C.F.A. SILVA (BR)

Discussion

11:30 – 13:30 ***Room*** **– SIROCCO**

SESSION B1
Medical Waste Case Studies

Chairmen: G. Denafas (LT), D. Komilis (GR)

B1.1.
Design of a collection, haul, transfer, treatment and disposal system for infectious medical waste management in the region of East Macedonia – Thrace, Greece
G. MANTZARAS, E. VOUDRIAS, I. PAPASPYROS (GR)

B1.2.
Management history of ash from the hazardous medical waste incinerator plant, within the integrated waste management facility (I.W.M.F.) of Ano Liosia, Athens, Greece
G. BOUBOUKAS, S. ELEFTHERIADOU, E. GIDARAKOS, P. MERKOS, S. STASINOS (GR)

B1.3.
Medical waste generation forecast feasibilities: Case study for Lithuania
G. DENAFAS, I. KAZRAGYTĖ, M. MARTIŠIŪTĖ, R. GUSTAITIENĖ (LT)

B1.4.
Assessing the leaching of heavy metals from incinerated expired drugs
S. GERASSIMIDOU, I. PAPASPYROS, A. EVANGELOU, D. KOMILIS (GR)

Discussion

11:30 – 13:30 ***Room*** – **PUNENTE**

SESSION C1:

Hazardous Waste Sludge - Solidification

Chairman: A. Coz (ES)

C1.1.

Recovering metals from sewage sludge, waste incineration residues and similar substances with hyperaccumulative plants

J.KISSER, H.GATTRINGER, M.IORDANOPOULOS-KISSER (AT)

C1.2.

Economic systems analysis of deinking sludge recovery options: A case study in Leningrad region, Russia

I. DEVIATKIN, K. GRÖNMAN, J. HAVUKAINEN, V. KAPUSTINA, M. HORTTANAINEN (FI)

C1.3.

Treatment hazardous sludge from an industrial waste water treatment plant for the production of concrete products for use in construction

V. CUTRARO, A. DURSO (IT)

C1.4.

Development and characteristics of binders for immobilization of toxic elements

P. SULOVSKY, T. STANEK (CZ)

C1.5.

Changes in microstructural pattern of chemical sludge after solidification/stabilization

H. PATEL, S. PANDEY (IN)

Discussion

11:30 – 13:30 ***Room*** – **LEVANTE**

SESSION D1:
Organic Waste Management

Chairman: K. Lazaridi (GR)

D1.1.
Stability assessment of composts in Greek market
K. LASARIDI, A. KYRIACOU, K. ABELIOTIS, V. LOGOTHETI, C. CHRONI (GR)

D1.2.
Removal of Zn(II) from aqueous solutions using biochar generated from spent coffee grounds
A. MANTONANAKI, F.-M. PELLERA, E. GIDARAKOS (GR)

D1.3.
Estimation of household food waste generation in Greece
K. ABELIOTIS, K. LASARIDI, C. CHRONI (GR)

D1.4.
Secured and sustainable solid waste management with bio-energy generation
S. RAJAMANI (IN)

D1.5.
Compost and zeolite use in laboratory scale permeable reactive barriers for the simultaneous removal of BTEX, Cd^{2+} and Zn^{2+} from groundwater
F. SIMANTIRAKI, E. ZIATA, E. GIDARAKOS (GR)

Discussion

11:30 – 13:30 ***Room*** – **LIVA**

WORKSHOP E1:
Olive Oil Waste

Chairman: E. Diamantopoulos (GR)

E1.1.
Olive husk management centers: the case of Cyprus and Crete
E. STEFANOUDAKI, E. BARBOPOULOU, C. ANTONIOU, M. KATZOURAKIS, P. FOKAIDES, E. CHRISTOFOROU, A. KYLILI, P. POLYCARPOU, N. CHRISTODOULOU (GR)

E1.2.
Different strategies to enhance the anaerobic bioconversion of olive waste
A. GIANICO, A. GALLIPOLI, P. PAGLIACCIA, C.M. BRAGUGLIA (IT)

E1.3.
Management of olive mill wastewater in Greece: current situation and future perspectives
A. KELESSIDIS, S. CHRISTOFOROU (GR)

E1.4.
Phenols separation from olive mill wastewater and liquid wine sludge wastes by cloud point extraction with cremophor
E. KATSOYANNOS, O. GORTZI, A. CHATZILAZAROU, V. ATHANASIADIS, S. LALAS (GR)

E1.5.
Effect of alkaline pretreatment on methane potential of olive mill solid waste
F.-M PELLERA, S.SANTORI, E. GIDARAKOS, R. POMI, A. POLETTINI (GR, IT)

Discussion

13:30 – 15:30 Lunch Break

15:30 – 16:00 **Poster Session**

Discussion

Exhibition on "SEA WASTE CONTAMINATION" & "ENVIRONMENTAL EFFECTS OF WAR WEAPONS"

During the Conference "CRETE 2014", an exhibition focusing on the effects of sea waste and war weapons contamination will take place at the hall venue. This exhibition is organized and created by the School of Environmental Engineering of the Technical University of Crete (Laboratory of Toxic and Hazardous Waste Management) and all the participants will be expected to introduce to the theme of the Round Table Discussion scheduled at the Closing Ceremony.

16:00 – 17:30 ***Room*** – **MAISTRO**

SESSION A2:
Management of Contaminated Sites

Chairman: K. Lorber (AT)

A2.1.
Methods and technologies for remediation of soil and groundwater at contaminated sites
K. LORBER (AT)

A2.2.
Balancing of pollutant transport in the subsoil
A. SCHÖNBERG, C. SPIJKER, D. ADAM, R. MARKIEWICZ, H. RAUPENSTRAUCH (AT)

A2.3.
Study of remediation of an industrial site contaminated by sulphate by means of a permeable reactive barrier
G.B. TRINDADE, M.E.G. BOSCOV (BR)

A2.4.
Remediation of former shotgun ranges in Australia
D. WOODS, J.M. NASH (AU)

A2.5.
Minimising environmental damage of an intense waste-tire fire
S. MAVROMATIS (GR)

Discussion

16:00 – 17:30 ***Room* - SIROCCO**

SESSION B2:
WEEE: Management and Treatment Technologies

Chairman: M. Aivalioti (GR)

B2.1.
Innovations in WEEE treatment – A technology review
S. SALHOFER, F. MICHLBERGER (AT)

B2.2.
Capacity building for e-waste management in Serbia
M. STEPANOVIĆ, G. PETKOVIĆ, N. STALETOVIĆ, R. RADOJEVIĆ, P. JOVANIĆ (RS)

B2.3.
Lead removal from cathode ray tube glass in the presence of PVC and HCl absorber
K. TAKAHASHI, G. GRAUSE, T. KAMEDA, T. YOSHIOKA (JP)

B2.4.
Removal of neodymium (Nd) from Fe-Nd-B magnets using microalgae
M.A. KÜCÜKER, K. KUCHTA (DE)

B2.5.
OREG – Optimal resource management of electrical and electronic devices
M. DOS SANTOS, S. EISENRIEGLER, W. HAUER, R. HAUBENBERGER-HAHN, T. MAIER, M. MERSTALLINGER, H. REICHL, G. WAIZINGER (AT)

Discussion

16:00 – 17:30 ***Room* - PUNENTE**

SESSION C2:
Health Care Waste I

Chairman: S. Mahnik (AT)

C2.1.
Assessment of the dangers of the hospital residual waste
S. MAHNIK, R. LIMBECK (AT)

C2.2.
Revisiting composition and production rate of dental solid waste in Xanthi, Greece
A. MANDALIDIS, E. VOUDRIAS, A. TOPALIDIS, N. IOSIFIDIS (GR)

C2.3.
Use of formaldehyde xylenes and glutaraldehyde in health care institutions
V.E. SCHNEIDER, K.L. MANFREDINI, I. NASCIMENTO FILHO (BR)

C2.4.
Management of laboratory hazardous wastes: a case study from Egypt
S.I. ABOU-ELELA, H.S. IBRAHIM (EG)

Discussion

16:00 – 17:30 ***Room* – LEVANTE**

SESSION D2:
Thermal Hazardous Waste Treatment

Chairman: P.J. He (CN)

D2.1.
Thermochemical reaction of cadmium with chloride
S.J. WANG, H. ZHANG, L.M. SHAO, P.J. HE (CN)

D2.2.
Pyrolysis as a method of waste and biomass valorization, to energy and innovative adsorptive and catalytic materials production
A. ZABANIOTOU, N. ANTONIOU (GR)

D2.3.
Analysis of the fuel composition of hazardous waste incinerators with respect to the content of biomass and fossil organic matter
J. FELLNER, T. SCHWARZBOECK, H. RECHBERGER (AT)

D2.4.
$PM_{2.5}$ and gaseous pollutants from the burning of different types of biomass
J.E.F. CIESLINSKI, M.A.M. COSTA, J.A.C. JÚNIOR (BR)

D2.5.
Pyrolysis of waste carbon fiber polymer matrix composites coming from the aerospace industry: A preliminary study
A. LOPEZ-URIONABARRENECHEA, I. DE MARCO, B.M. CABALLERO, A. ADRAROS, J. SOLAR (ES)

Discussion

16:00 – 17:30 ***Room* - LIVA**

WORKSHOP E2:
Monitoring and Treatment of Asbestos Waste

Chairman: D. Sciunnach (IT)

E2.1.
Update to 2012 of Asbestos-cement mapping in Lombardy (ITALY)
D. BELLINGERI, A. MENIN, E. ZINI (IT)

E2.2.
Upgrading operational phase procedures for asbestos-cement waste landfills in Lombardy (Italy)
U. PARRAVICINI, M. FRASCAROLO, D. SCIUNNACH (IT)

E2.3.
Asbestos on railway ballast: Analyses, monitoring and management
P. PLESCIA, E. TEMPESTA, F. TRAPASSO (IT)

E2.4.
Stabilization of chrysotile asbestos via acid-leaching and silylation processes
A. VALOUMA, A. VERGANELAKI, I. TETOROS, P. MARAVELAKI, E. GIDARAKOS (GR)

Discussion

17:30 – 18:00 Coffee Break

18:00 – 20:00 ***Room*** **- MAISTRO**

SESSION A3:
Landfilling of Different Wastes

Chairman: G. Rettenberger (DE)

A3.1.
Landfill planning-learning from the past and present to inform the future planning and development of closed landfill sites
D.I. HOLDEN, J.M. NASH (AU)

A3.2.
Evaluation of the activity of an Italian hazardous waste landfill
S. FIORE, M.C. ZANETTI, S. BOTTA, C. COMOGLIO, P. LUCIANI, M. DEMAIO (IT)

A3.3.
Management application of waste foundry sand (WFS) in solid waste landfills
L.G.F. DOMINGUES, G.C.S. FERREIRA (IT)

A3.4.
Behavior of landfill class I containing hazardous wastes
G. RETTENBERGER (DE)

A3.5.
Assessment of the final cover system of a closed landfill in Sweden
V. RIBE, K. FREDRIKSSON, I. LJUNGGREN, S. STENBERG, M. ODLARE, E. NEHRENHEIM (SE)

Discussion

18:00 – 20:00 ***Room* - SIROCCO**

SESSION B3:
Hazardous Waste Treatment

Chairman: D. Mantzavinos (GR)

B3.1.
Treatment and resource recovery from fluorine-containing waste produced by pesticide industry
Y. LI, H. ZHANG, L.M. SHAO, P.J. HE (CN)

B3.2.
Complex of technical devices for oil liquid wastes treatment
M.JU. ANDRIANOVA, L.M. MOLODKINA, E.A. BONDARENKO, A.N. CHUSOV, M.P. FEDOROV (RU)

B3.3.
Development of an $AgCl/Al_2O_3$ membrane for the recovery of chloride from NaCl/EG solvents
K. YAMADA, G. GRAUSE, T. KAMEDA, T. YOSHIOKA (JP)

B3.4.
Synthesis and photocatalytic activity of TiO_2 anatase crystals with exposed {001} facets
N.P. XEKOUKOULOTAKIS, C. BREBOU, M.V. SOFIANOU, N. BOUKOS, C. TRAPALIS, D. MANTZAVINOS (GR)

B3.5.
A complete recovery process for a hazardous waste in the aluminum tertiary industry
R. GALINDO, I. PADILLA, A. LÓPEZ-DELGADO (ES)

Discussion

18:00 – 20:00 ***Room* - PUNENTE**

SESSION C3:
Health Care Waste II

Chairman: D. Barceló (ES)

C3.1.
A comprehensive waste logistic to separate infectious from uninfectious healthcare waste at the Jena University hospital
M. HOFFMANN (DE)

C3.2.
Pharmaceuticals input and elimination at local sources: innovative options and sustainable solutions
K. PALLA, C. DOULGERAKIS, L. TZIMIS, K. POLYZOIDIS, I. MARAGAKIS, E. APAZIDOU, E. KAMILAKI, D. KOUTSOUMBA, I. VARTHALITIS (GR)

C3.3.
Analysis of healthcare waste heterogeneity in a University hospital and outpatien clinic
V.E. SCHNEIDER, J.C. PAIZ, A. C. KAPPES, M. CECHINATTO, N.L.R. STEDILE (BR)

C3.4.
Disposal of hazardous waste of health-care units in Southern Greece. The experience of the Hellenic Environment Inspectorate (H.E.I.)
V. DALAMAGAS, A. DROUZA, E. GIDARAKOS, P. MERKOS, S. STASINOS (GR)

Discussion

18:00 – 20:00 ***Room*** **- LEVANTE**

SESSION D3:
Ashes as a Resource

Chairman: A. Polettini (IT)

D3.1.
Sewage sludge ashes – waste or valuable resource?
O. KRÜGER, C. ADAM (DE)

D3.2.
Synthesis of magnetic zeolite at low temperature using waste materials mixture: fly ash and red mud
C. BELVISO, E. AGOSTINELLI, S. BELVISO, F. CAVALCANTE, S. PASCUCCI, D. PEDDIS, G. VARVARO, S. FIORE (IT)

D3.3.
Study on dioxins decomposition/detoxification of incineration fly ash by iron oxides during hydrothermal treatment
J. LI, Y. HU, D. CHEN, X. LI (CN)

D3.4.
Utilization of treated solid waste combustion residues in reconstruction and air space extension of landfills
K.E. LORBER, R. SARC, K. WRUSS (AT)

D3.5.
Stabilization/solidification of incinerator fly ash by means of cementitious cold-bonding pelletization
F. COLANGELO, R. CIOFFI (IT)

Discussion

18:00 – 20:00 ***Room* – LIVA**

WORKSHOP E3:
Disposal and Management of Asbestos Waste

Chairman: D. Lancellotti (IT)

E3.1.
Italian asbestos waste management
F.PAGLIETTI, B. CONCESTABILLE DELLA STAFFA, S. BELLAGAMBA (IT)

E3.2.
The management of local issues in environmental permitting and EIA
C. LAVAGETTI (IT)

E3.3.
Overcoming local conflicts in the authorization process for AC waste disposal plants
S. TESTA, P. BOTTANI (IT)

E3.4.
National funding for abatement and disposal of asbestos cement roofs
D. LANCELLOTTI, B. RIMOLDI, G. TAMIGIO (IT)

E3.5.
Greek asbestos waste management: Case studies
A. KOUSAITI, E. GIDARAKOS (GR)

Discussion

Thursday, September 4th - Morning

08:00 – 09:00 **Registration**

08:30 – 09:00 ***Room* - MAISTRO**

Keynote Speaker

Chairman: R. Cossu (IT)

Prof. Rainer Stegmann

Technical University of Hamburg (DE)

"Toxification of the Environment by Residues from our Daily Life Activities"

Discussion

09:00 – 11:00 ***Room*** **- MAISTRO**

SESSION A4:

Municipal Wastewater Treatment

Chairman: J. Wong (HK)

A4.1.

Operation of domestic wastewater treatment plants in southern Greece. The experience of Hellenic Environmental Inspectorate (H.E.I.)

V. DALAMAGAS, P. MERKOS, S. STASINOS (GR)

A4.2.

Nitric oxide for anammox recovery in nitrite-inhibited deammonification systems

I. ZEKKER, E. RIKMANN, T. TENNO, L. LOORITS, K. KROON, H. FRITZE, T. TUOMIVIRTA, P. VABAMÄE, M.RAUDVIKI, T.TENNO (EE)

A4.3.

Removal of the antidepressant sertraline from aqueous solution by graphene oxide adsorption

C. DROSOU, N.P. XEKOUKOULOTAKIS, D. FATTA-KASSINOS (GR)

A4.4.

Urban sanitation and the use of human waste as manure in ancient Rome

V.C. MACHLINE, C. MACHLINE (BR)

A4.5.

Removal of emerging pollutants through wastewater tertiary treatment

O. ARVANITI, A. ASIMAKOPOULOS, V. SAMARAS, K. ANTONIOU, N. THOMAIDIS, D. MAMAIS, T.D. LEKKAS, A. STASINAKIS (GR)

A4.6.

Occurrence of antibiotic resistant bacteria isolated from surface water and wastewater in Chania

C. BOUKI, D. VENIERI, E. DIAMANTOPOULOS (GR)

Discussion

09:00 – 11:00 ***Room*** **- SIROCCO**

SESSION B4:
Contaminated Sediments

Chairman: M. Ritzkowski (DE)

B4.1.
Approaches, results and future perspectives in the field of reuse of dredged sediments. Findings of the coast-best project
C. CORSI, S. DASTOLI, G. DE GIOANNIS, G. MONTRESORI, A. MUNTONI, A. PIETERS, A. POLETTINI, R. POMI, E. RIZZI, E. ROMANO, A. SERCI, B. VILLANI, A. ZUCCA (IT)

B4.2.
Environmental dredging of a chromium contaminated fjord in Valdemarsvik, Sweden
S. PENSAERT, H. NOLLET, E. ROMBAUT, X. LEPERE (BE)

B4.3.
Combination of surfactants and citric acid for the simultaneous electrokinetic removal of toxic metals and PAHS from real sediments
J. HAHLADAKIS, A. SMPONIAS, N. LEKKAS, E. GIDARAKOS (GR)

B4.4.
Total mercury and methylmercury distributions in surface sediments from Arctic
Y. LIU, X. CHAI, Y. HAO, Z. LU, Y. ZHAO (CN)

B4.5.
Vegetation assessment near the nickel-copper smelter: consideration of environmental risk from the viewpoint of metal accumulation
R. KIKUCHI, T. GORBACHEVA (JP)

Discussion

09:00 – 11:00 ***Room*** **- PUNENTE**

SESSION C4:

Construction and Demolition Waste

Chairman: K. Komnitsas (GR)

C4.1.

Characterization and preliminary evaluation of quarry dust for its utilization in construction applications

M. GALETAKIS, G. ALEVIZOS, E. STIAKAKIS, K. LEVENTAKIS, A. VASILIOU, C. PIPERIDI, N. STAVROULAKIS (GR)

C4.2.

Reuse of construction and demolition wastes (CDW). The case of Sardinia Island (Italy)

G.MEI, G. BALLETTO, L. FRANCESCONI, C. FURCAS, S. NAITZA, L. PANI, N. TRULLI (IT)

C4.3.

Assessment of construction and demolition wastes as raw material for the building industry

M. GALETAKIS, K. KOMNITSAS, K. LEVENTAKIS, A. VASILIOU, C. PIPERIDI, D. ZAHARAKI, N. STAVROULAKIS, M. GINOS (GR)

C4.4.

Geotechnical and environmental assessment of stabilized drilling wastes for use in road construction

A. KALLEL, A. SOUISSI, M. ZAIRI, I.TRABELSI (TN)

C4.5.

Geopolymerization potential of construction and demolition wastes (CDW)

D. ZAHARAKI, K. KOMNITSAS, A. VLACHOU, M. GALETAKIS (GR)

Discussion

09:00 – 11:00 ***Room*** **- LEVANTE**

WORKSHOP D4:
Recycling of Fiber Reinforced Materials I

Chairman: D. Pico (DE)

D4.1.
Conversion of recycled glass fiber wind blades into a valuable material with high thermal stability: A case study
D. PICO, T. GRIES (DE)

D4.2.
Recyclability and sustainability of reinforced plastics from rotor blades
E. SEILER, F. HENNING (DE)

D4.3.
An experimental study on recycling and reuse of pultruded composite material wastes
M.C.S. RIBEIRO, A.C. MEIRA-CASTRO, F.G. SILVA, M.L. DINIS, A. FIÚZA (PT)

D4.4.
Performance analysis of a wind turbine based on a solar nozzle
J.H. WAHEB, M. TAWFEEQ WESMI, SAAD A. RAZUQI (IQ)

Discussion

09:00 – 11:00 **Room - LIVA**

WORKSHOP E4:
Development in Hazard Property Characterization Methods I

Chairmen: P. Hennebert (FR), R. Weltens (BE)

E4.1.
Developments in hazard property classification and methods
P. HENNEBERT, R. WELTENS (FR)

E4.2.
Impact of the new list of waste on classification of wastes in Flanders (Belgium)
R. WELTENS, L. GEERTS, E. ROSSI, K. SMEETS (BE)

E4.3.
Integral methodology using leaching tests and modeling of granular stabilised waste
A. COZ, B. RUIZ-LABRADOR, G. RUIZ, A. ANDRÉS (ES)

E4.4.
Validation of procedures for content analysis of organic contaminants in soil, treated biowaste and sludge
U. KALBE, N. BANDOW, P. LEHNIK-HABRINK, A. BUCHHOLZ, W. BERGER (DE)

Discussion

11:00 – 11:30 Coffee Break

11:30 – 13:30 ***Room*** **- MAISTRO**

SESSION A5:
Sewage Sludge Treatment

Chairmen: S.I. Abou-Elela (EG),
R.A.G. Battistelle (BR)

A5.1.
Chemical pollutants content of sewage sludge and its use as fertilizer across Europe
N.A. SUCIU, L. LAMASTRA, M. TREVISAN (IT)

A5.2.
Recovery sustainable of waste sludge sewage through gas analysis by composting process
E.J. SCOTON, R.A.G. BATTISTELLE, J. AKUTSU, E. KELLNER, J.S. CORDEIRO (BR)

A5.3.
Improved dewaterability of chemically enhanced primary sludge by bioacidification using iron and sulfur oxidizing bacteria
J.W.C. WONG, K. MURUGESAN, S.M. YU, A. SELVAM (HK)

A5.4.
Evaluation of the co-composting of sewage sludge and waste food of restaurant through gas analysis in hermetic rotary reactor
B.S. PEREIRA, E.J. SCOTON, R.A.G. BATTISTELLE, R.M. DEUS (BR)

A5.5.
The RecoPhos process – recovery of phosphorus from sewage sludge ashes
A. SCHÖNBERG, K. SAMIEI, H. KERN, H. RAUPENSTRAUCH (AT)

Discussion

11:30 – 13:30 ***Room* – SIROCCO**

SESSION B5:
Hazardous Waste Management in Greece (in Greek)
Διαχείριση Επικινδύνων Αποβλήτων στην Ελλάδα

Chairmen: P. Merkos (GR), E. Gidarakos (GR)

B5.1.
Ανάπτυξη ενός ολοκληρωμένου συστήματος διαχείρισης επικινδύνων αποβλήτων
Ε. ΓΙΔΑΡΑΚΟΣ (GR)

B5.2.
Διαχείριση στερεών βιομηχανικών – επικινδύνων και μη – αποβλήτων στη Νότια Ελλάδα. Η εμπειρία της ειδικής υπηρεσίας Επιθεωρητών Περιβάλλοντος του ΥΠΕΚΑ
Ε. ΓΙΔΑΡΑΚΟΣ, Β. ΔΑΛΑΜΑΓΚΑΣ, Π. ΜΕΡΚΟΣ, Σ. ΣΤΑΣΙΝΟΣ (GR)

B5.3.
Διαχείριση επικινδύνων αποβλήτων υγειονομικών μονάδων στη Νότια Ελλάδα. Η εμπειρία της ειδικής υπηρεσίας Επιθεωρητών Περιβάλλοντος του ΥΠΕΚΑ
Ε. ΓΙΔΑΡΑΚΟΣ, Β. ΔΑΛΑΜΑΓΚΑΣ, Α. ΔΡΟΥΖΑ, Π. ΜΕΡΚΟΣ, Σ. ΣΤΑΣΙΝΟΣ (GR)

B5.4.
Περιβαλλοντική αποκατάσταση λόγω ανεξέλεγκτης διάθεσης επικινδύνων αποβλήτων. Μελέτη περίπτωσης στην Κεντρική Ελλάδα
Β. ΔΑΛΑΜΑΓΚΑΣ, Σ. ΚΑΒΟΥΡΗ, Π. ΜΕΡΚΟΣ, Σ. ΣΤΑΣΙΝΟΣ, Ε. ΧΑΛΑΡΑΚΗΣ (GR)

Discussion

11:30 – 13:30 ***Room*** **- PUNENTE**

SESSION C5:

Landfill Emission Control

Chairman: R. Cossu (IT)

C5.1.

Improving biodegradable organic matter availability in a combined partial nitritation-anammox/photo-fenton process for optimal N and COD removal from mature landfill leachates

M.RUSCALLEDA, A. ANFRUNS, A. VILÀ, P. GONZÁLEZ, J. GABARRÓ, M.D. BALAGUER, J. COLPRIM (ES)

C5.2.

Determination of the development of flammable gases within solid waste in case of contact with water

M. IORDANOPOULOS-KISSER, P. MOSTBAUER, J. WINKLER (AT)

C5.3.

Investigating the treatment efficiency and energy consumption during the operation of a leachate treatment plant: A case-study from Mavrorachi WWTP, Thessaloniki, Greece

K.TSOMPANOGLOU, TH.FOROZOGLOU , P.DIMITRAKOPOULOU, K.POULIOS, A. KALOUDIS, M.KOTSIKAS, V.SOMATARIDOU, E. VAGIA, S.THEODORIDIS, TH.LASPIDIS , E.MOUXIOU, D.TANGILIS, A.STASINAKIS, A.ARGYROPOULOS (GR)

C5.4.

Consequences of nitrite elimination in steel-processing waste water for Cr(VI) leaching from the landfilled sludge

F. BRÜCK, M. HÄNDEL, K.U. TOTSCHE, H. WEIGAND (DE)

C5.5.

Biological stabilization of a chromite ore processing residues landfill by the "in situ reactive zone" (IRZ) technique: results after 2.5 years

T. GISBERT, T. WOHLHUTER, D. TOGNET, S. POPRAWKA, L. FERRIERE, C. MALANDAIN, O. SIBOURG (FR)

Discussion

11:30 – 13:30 ***Room* - LEVANTE**

WORKSHOP D5:
Recycling of Fiber Reinforced Materials II

Chairmen: D. Pico (DE), J. Mizuguchi (JP)

D5.1.
Wetlaid nonwovens as a resource-efficient manufactured semifinished product for composite structures made from recycled carbon fibers
T. HARBERS, C. EBEL, K. DRECHSLER, A. ENDRES, G. MÜLLER (DE)

D5.2.
Recycling of glass fibre reinforced unsaturated polyesters cross-linked with styrene by hydrolysis: Influence of the conditions on reclaimed fibre properties and recovered products
G. OLIVEUX, JL. BAILLEUL, E. LE GAL LA SALLE (FR)

D5.3.
Potential usage for used glass fiber reinforced plastics (GFRP) and carbon fiber reinforced plastics (CFRP)
R. GARCIA SANCHEZ, A. PEHLKEN, M. LEWANDOWSKI (DE)

D5.4.
Recovery of fibers from fiber reinforced plastics and their recycling based upon thermally activated oxide semiconductors
J. MIZUGUCHI, Y. TSUKADA, H. TAKAHASHI (JP)

D5.5.
Novel degradable curative for re-workable epoxy in sustainable composite application
X. LI, B. LIANG, B. QIN, Z. SHEN, Y. GONG, F. GUI, X. YANG (UK)

Discussion

11:30 – 13:30 ***Room*** **- LIVA**

WORKSHOP E5:
Development in Hazard Property Characterization Methods II

Chairmen: P. Hennebert (FR), R. Weltens (BE)

E5.1.
Classification of ash as hazardous or non-hazardous waste
R. SJÖBLOM (SE)

E5.2.
Waste hazard properties classification – application of the new rules to 45 samples
P. HENNEBERT, F. REBISCHUNG (FR)

E5.3.
Availability from leaching or actual leaching as alternative for total content in the hazard classification of wastes with potential for beneficial use
H. VAN DER SLOOT, O. HJELMAR, D.S. KOSSON, A. VAN ZOMEREN (NL)

E5.4.
Waste hazard property HP 12 (emission of toxic gas in contact with water or an acid): Proposition of method and first results
P. HENNEBERT, I. SAMAALI, P. MOLINA (FR)

Discussion

13:30 – 15:30 Lunch Break

15:30 – 16:00 ***Room*** **- MAISTRO**

Keynote Speaker

Chairman: R. Stegmann (DE)

Prof. Raffaello Cossu
University of Padua (IT)
"Industrial Waste Management within the Urban Mining Concept"

Discussion

16:00 – 18:00 ***Room*** **- MAISTRO**

SESSION A6:
Recycling of Composite Materials

Chairman: K. Kuchta (DE)

A6.1.
A step change in the recycling of composite materials
G. OLIVIEUX, L. DANDY, G.A. LEEKE (UK)

A6.2.
Development of recyclable textile coverings used in the European construction and transport industry based on an ecodesign methodology
A. SCHRÖTER, U. RÜBSAM, Y. SIMON GLOY, D. PICO, T. GRIES (DE)

A6.3.
Vapor-phase hydrolysis to produce nano-structured silica materials: a new method for the recycling of silicon tetrachloride
X.J. CHEN, F. YAN, K.M. LI, M. ZHAO, J.G. JIANG (CN)

A6.4.
A study of the aerobic degradation of wood manufacturing industry wastes: Effect of compost addition
G. NTALOS, C. TSANAKTSIS, D. KOMILIS (GR)

A6.5.
Investigation of selective separation of post-consumer plastics
M.O. KANGAL, A. GÜNEY, Z.S. KUTLU, Ü.YENIAL, F.BURAT (TR)

Discussion

16:00 – 18:00 ***Room*** **- SIROCCO**

SESSION B6:
Specific Waste Management Strategies

Chairman: C. Dornack (DE)

B6.1.
Management of industrial (hazardous and not hazardous) solid wastes in southern Greece. The experience of Hellenic Environmental Inspectorate (H.E.I.)
V. DALAMAGAS, E. GIDARAKOS, P. MERKOS, S. STASINOS (GR)

B6.2.
Development of an innovative process for treatment of liquid hazardous wastes in CP-PLANTS
R. SARC, K.E. LORBER, R. POMBERGER (AT)

B6.3.
Sustainable coastal management model for Mediterranean areas
V. ZISIMOPOULOS, A. ZORPAS, S. EUTHIMIADOU (CY)

B6.4.
Circular economy in the paper value chain
C. DORNACK (DE)

B6.5.
Siderurgical residues management in Rio De Janeiro State and possibilities of integration with urban residues
C.F. MAHLER, A.O. FERRAZ (BR)

B6.6.
Advanced training in intergraded sustainable waste management for Siberian companies and authorities- Tempus TIWaSiC Project
A. VALOUMA, E. GIDARAKOS (GR)

Discussion

16:00 – 18:00 ***Room*** **- PUNENTE**

SESSION C6:
Chromium Contamination

Chairman: A. Zabaniotou (GR)

C6.1.
Anaerobic biotransformation of hexavalent chromium in batch reactors
A. MORENO, A. BERNAL, E. SOUZA, G. CUEVAS (MX)

C6.2.
Contaminant hydrochemistry of Thebes valley, with emphasis on hexavalent chromium. Aspects on its origin by using stable isotopic measurements
D.I. KOILAKOS, T.M. MIMIDES (GR)

C6.3.
Elucidating the mechanisms of chromium release from geogenic processes
M. LILLI, D. MORAETIS, N. NIKOLAIDIS, N. KALOGERAKIS, G. KARATZAS (GR)

C6.4.
Soil chemistry of Boeotia Prefecture and application of yttrium normalisation for exlaining the origin of chromium in soil
T.M. MIMIDES, D.I. KOILAKOS (GR)

C6.5
Vitrification of chromium containing tannery ash
S. VARITIS, P. KAVOURAS, E. PAVLIDOU, G. VOURLIAS, K. CHRISSAFIS, P.G. DIMITRAKOPOULOS, PH. KOMNINOU, TH. KARAKOSTAS (GR)

Discussion

16:00 – 18:00 ***Room*** **- LEVANTE**

IWWG WORKSHOP D6:
Characteristics and Treatment of WEEE I

Chairman: S. Salhofer (AT)

D6.1.
Separation of mercury and tri-color phosphor from spent fluorescent lamps through advanced pre-treatment process
J. HOBOHM, H. HABIB, K. KUCHTA (DE)

D6.2.
Determination of toxic metals in waste LCDs with emphasis in arsenic
V. SAVVILOTIDOU, J. HAHLADAKIS, E. GIDARAKOS (GR)

D6.3.
Management of mercury risk originated from spent fluorescent lamps in Turkey
S. COSKUN, C. OZGUR, A. GUNCAN, S. COSKUNSU, G. CIVELEKOGLU (TR)

D6.4.
Concentrations of toxic metals in discarded computers and comparison with the RoHS Directive limits
K. KOLIAS, J. HAHLADAKIS, E. GIDARAKOS (GR)

Discussion

16:00 – 18:00 ***Room* - LIVA**

WORKSHOP E6:
Hydrocarbon Waste Management: Drilling Waste I

Chairmen: T. Bilstad (NO), S. Keller (NO)

E6.1.
Introduction to hydrocarbon waste management
T. BILSTAD, E. PROTASOVA (NO)

E6.2.
Produced water management
T. BILSTAD, E. PROTASOVA (NO)

E6.3.
Composition of drilling waste associated with prospecting for oil and gas
J. FIJAL, A. GONET, A. JAMROZIK (PL)

E6.4.
Thermal desorption of drilling waste contaminated by oil based drilling fluids
R. VALENTINETTI, S. KLEPPE (NO)

Discussion

18:00 – 18:30 Coffee Break

18:30 – 20:30 ***Room*** **- MAISTRO**

SESSION A7:
Industrial Wastewater Treatment

Chairman: A.I. Zouboulis (GR)

A7.1.
The inhibition effect of PCB on the methanogenic activity
M.R. DE L.E. SILVA, I.K. SAKAMOTO, M.B.A. VARESCHE (BR)

A7.2.
Melanoidin removal from simulated and real molasses wastewater by coagulation using aluminum chloride as coagulant
T.I. LIAKOS, N.K. LAZARIDIS (GR)

A7.3.
Case study of illegal hazardous liquid waste disposal – implementation of environmental responsibility
E. CHALARAKIS, V. DALAMAGAS, S. KAVOURI, P. MERKOS, A. PAPADELIS, S. STASINOS (GR)

A.7.4.
Novel industrial waste water treatment integrated with solid waste management - recovery of water and salt under zero liquid discharge concept
S. RAJAMANI (IN)

A7.5.
Management of leachable metal concentrations and phytotoxicity of a hazardous mine soil by modified bauxite residuel
P. HENNEBERT, L. POIZAT, R. REVALOR (FR)

Discussion

18:30 – 20:30 ***Room*** **- SIROCCO**

SESSION B7:
Treatment of Contaminated Soil

Chairman: R. Stegmann (DE)

B7.1.
Use of yeast biosurfactants for remediation of soils contaminated by hexachlorocyclohexane
M. ŠÍR, K. LHOTSKÁ, L. KOCHÁNKOVÁ, J. MIKEŠ, M. MINAŘÍK (CZ)

B7.2.
Effect of biochar amendment on zinc availability in an artificially contaminated soil
M.E. KOUTSOUMPI, F.-M. PELLERA, E. GIDARAKOS (GR)

B7.3.
The effect of salt-contaminated clayey soil dewatering by electrokinetic method using EKG electrodes on oedometric consolidation behaviour of the soil
A. MERIKHI, N. SHARIATMADARI, B. ZAHABYIOUN, S. SAEIDJAM (IR)

B7.4.
The effectiveness of the remediation of contaminated areas in São Paulo State, Brazil
P.F.I. LEMOS, A.C.C.F.A. SILVA (BR)

B7.5.
Subsoil and groundwater remediation applications
A. NIKOLAOU, E. GIDARAKOS (GR)

Discussion

18:30 – 20:30 ***Room* - PUNENTE**

SESSION C7:
Hydrothermal-Carbonization of Special Waste

Chairman: H. Van der Sloot (NL)

C7.1.
Accelerated carbonation of Waelz slag: effect of particle size on CO_2 sequestration capacity
G. CAPPAI, G. DE GIUDICI, D. MEDAS, S. MILIA, A. MUNTONI, G. ORRU, A. NIEDDU, M. PIREDDA (IT)

C7.2.
Hydrothermal gasification of arabinose as a model compound for plant bıomass waste
D. SELVI GÖKKAYA, M. SAGLAM, M. YÜKSEL, L. BALLICE (TR)

C7.3.
Torrefaction of SRC willow as a pretreatment for fluidized bed gasification
K. WOYTIUK, W. CAMPBELL, R. GERSPACHER, R.W. EVITTS, A. PHOENIX (CA)

C7.4.
Supercritical water gasification of pea shells by using mineral catalysts
D. SELVI GÖKKAYA, D.E. YÜKSEL, M. SAGLAM, M. YÜKSEL, L. BALLICE (TR)

C7.5.
Obtaining char pyrolysis from filter mud of sugar and alcohol industries
C.A.R. BERNARDINO, I.A. LIMA, T.S. FERNANDES, M.C.C. VELOSO, G.A. ROMEIRO, C.F. MAHLER (BR)

Discussion

18:30 – 20:30 ***Room*** **- LEVANTE**

IWWG WORKSHOP D7:
Characteristics and Treatment of WEEE II

Chairman: S. Salhofer (AT)

D7.1.
Estimation on mercury emission in vapor phase from compact fluorescent lamp (CFL)
S.W. RHEE, H.S. PARK, J.K. KIM, M.S. LEE (KR)

D7.2.
Recycling of lead from WEEE
F.-S. ZHANG, M. XING (CN)

D7.3.
WEEE small appliances distribution and material changes along the time
M. DOS SANTOS, M. SPITZBART, S. SALHOFER, R. SPANOCCHI, M. WEINLICH, P. GRASSL (AT)

D7.4.
Determination of indium(In) and arsenic (As) in discrarded LCDs.
E. PAPAGEORGIOU, J. HAHLADAKIS, E. GIDARAKOS (GR)

D7.5.
Recycling rare metals from WEEE – potential, challenges and emerging technologies
K. KUCHTA (DE)

Discussion

18:30 – 20:30 ***Room* - LIVA**

WORKSHOP E7:

Hydrocarbon Waste Management: Drilling Waste II

Chairmen: T. Bilstad (NO), S. Sanni (NO)

E7.1.

Effect of sodium on anaerobic treatment of ethylene glycol

A. WOLD, L. YDSTEBØ, R. KOMMEDAL, M. LØKLINGHOLM, T. BILSTAD (NO)

E7.2.

Ecotoxicity of thermally treated oil based drilling waste

S. SANNI, D.M. PAMPANIN, S.P. GOONEWARDENE, C. HARA, S. JESUTHASAN, E. TSIGEREDA KINDAYA, C.A. LOVASOA, J.V. RANDRIANARIMANANA, D. MULYARENKO, A. BAGI (NO)

E7.3.

Chemical destabilization and separation of drilling mud for reuse

C. SMITH, T. BILSTAD, S. HAJIZADEH, T. AARESTRUP, S. KELLER (NO)

E7.4.

Environmental friendly and cost effective drilling fluid management offshore Norway

T. BILSTAD, B. JENSEN, M. TOFT (NO)

Discussion

Friday, September 5th – Morning

08:00 – 09:00 **Registration**

08:30 – 09:00 ***Room*** **- MAISTRO**

Keynote Speaker

Chairman: E. Gidarakos (GR)

Prof. Gerasimos Lyberatos

National Technical University of Athens (GR)

"Hexavalent Chromium Impacts and its Removal from Groundwater and Wastewater: Myths and Perspectives"

Discussion

09:00 –11:00 ***Room*** **- MAISTRO**

SESSION A8:

Analytic Assessment: Monitoring and Evaluation

Chairman: H. Raupenstrauch (AT)

A8.1.

Recent changes in the development of sampling design and sampling density in contaminated site assessment- the Australian experience

J.M. NASH, T. WRIGHT (AU)

A8.2.

Biomonitoring of exposure to pollutants in subjects living in the vicinity of a solid waste incinerator

L. CAMPO, S. FUSTINONI, L. ERSPAMER, A. RANZI, G. GATTI, P.E. BECHTOLD, C.A. GOLDONI, P.A. BERTAZZI, P. LAURIOLA (IT)

A8.3.

Toxicological evaluation of waste fractions using biological effect measurements

R. WELTENS, R. SMOLDERS, H. WITTERS, R. VANDENHEUVEL (BE)

A8.4.

An investigation of dusts from mechanical waste treatment facilities on their potential to cause dust explosions

K. HELD, H. RAUPENSTRAUCH (AT)

A8.5.

Development of neutron interrogation techniques for detecting dangerous substances in port containers

N.M.B. D' AMICO, R.E. MAYER (AR)

Discussion

09:00 –11:00 ***Room* - SIROCCO**

SESSION B8:
Life Cycle Assessment

Chairman: T. Christensen (DK)

B8.1.
LCA – Life-Cycle-Assessment modelling has come to stay in waste in management – But does it also play a role in hazardous and special waste management?
T. CHRISTENSEN, A. DAMGAARD (DK)

B8.2.
Comparing MSW management scenarios using different life cycle assessment software: A case study in a prefecture in north Greece
C. EVGENIDOU, A. PETALAS, D. KOMILIS (GR)

B8.3.
Environmental impact of alternative construction and demolition waste management practices: A life cycle analysis approach
G. PERKOULIDIS, G. BANIAS, CH. ACHILLAS, CH. VLACHOKOSTAS, N. MOUSSIOPOULOS, P. ROIDI (GR)

B8.4.
LCA of the WEEE management system in Lombardia
L. BIGANZOLI, A. FALBO, F. FORTE, L. RIGAMONTI, M. GROSSO (IT)

B8.5.
CFD-model developing of dust transfer at a tailings dump
P. AMOSOV, A. BAKLANOV, V. MASLOBOEV, S. MAZUKHINA (RU)

Discussion

09:00 –11:00 ***Room*** **- PUNENTE**

SESSION C8:

Recycling of Industrial By-products

Chairman: E. Voudrias (GR)

C8.1.

Bricks from stainless steel slags: an environmental evaluation based on life cycle approach

A. DI MARIA, M. SALMAN, K. VAN ACKER, K. VAN BALEN, M. DUBOIS (BE)

C8.2.

Bedding mortar with waste foundry sand (WFS)

G.C.S. FERREIRA, G.M. BUENO, L.G.F. DOMINGUES (BR)

C8.3.

Reuse of Gravel Wash Mud

J.-F. WAGNER (DE)

C8.4.

Reduced carbon footprint of biodiesel production by valorizing waste glycerol on-site – the gly-co biodiesel project

P. MANARA, D. ROVAS, A. ZABANIOTOY (GR)

C8.5.

On the question of disposal of the heat power ash waste

E.V. ZELINSKAIA, A.E. BURDONOV, N.A. TOLMACHOVA, V.V. BARAHTENKO (RU)

Discussion

09:00 –11:00 ***Room*** **- LEVANTE**

IWWG WORKSHOP D8:
Energy from Industrial Waste

Chairman: U. Arena (IT)

D8.1.
Energy from plastic wastes in fluidized bed combustion and gasification processes
U. ARENA, F. DI GREGORIO, R. CHIRONE, R. SOLIMENE, M. URCIUOLO (IT)

D8.2.
High efficiency power generation and valuable slag production by high temperature gasifying and direct melting furnace
T. SHINAGAWA, S. NAGAYAMA, H. YAMAMOTO, A. SUZUKI (DE)

D8.3.
Local energy centre fuelled with agricultural and industrial biomass waste
M. DUDYŃSKI, K. KWIATKOWSKI, M. SOSNOWSKA (PL)

D8.4.
Utilization of waste streams for energy production
A. GORODETSKY (CA)

D8.5.
Energy and material recovery from industrial waste via co-gasification with municipal solid waste using a waste gasification and melting technology
N. TANIGAKI, R. MAKISHI, Y. ISHIDA (DE)

Discussion

09:00 –11:00 ***Room*** **- LIVA**

SESSION E8:

Hospital Emissions: Characterization, Management & Environmental Risk

Chairman: D. Barceló (ES)

E8.1.

Pharmaceuticals in hospital discharges and wastewater treatment plants – from suspect to target analysis

B. ZONJA, N. NEGREIRA, M. LOPEZ DE ALDA, S. PÉREZ, D. BARCELÓ (ES)

E8.2.

Determination of pharmaceuticals and their human metabolites in hospital wastewaters using UPLC-Q exactive (ORBITRAP)-MS using a suspect analysis approach

S. PÉREZ, B. ZONJA, P. EICHHORN , D. BARCELÓ (ES)

E8.3.

Treatment technologies for hospital wastewater

I. VARTHALITIS, C. DOULGERAKIS, K. POLYZOIDIS, L.TZIMIS, I.MARAGAKIS, E. APAZIDOU, E. KAMILAKI , G. PAVLIDAKI, D. KOUTSOUMBA, K. PALLA (GR)

E8.4.

Best strategies for managing and treating hospital effluents. Case study of Ferrara hospital, Italy

P. VERLICCHI, M. PETROVIC, M. AL AUKIDY, A. GALLETTI (RS)

E8.5.

Enzymatic decontamination processes for micropollutants: degradation studies and transformation products

M. LLORCA, S. RODRIGUEZ-MOZAZ, D. BECKER, M. WAGNER, J. OEHLMANN, M. DE CAZES, J. SANCHEZ, M.P. BELLEVILLE, R. SCHOEVAART, S. BAYER, R. CZAJA, O. COUILLEROT, P.-A. BANDINELLI, J. DE GUNZBURG, D. BARCELÓ (ES)

Discussion

11:00 – 11:30 Coffee Break

11:30 –13:30 ***Room* - MAISTRO**

SESSION A9:
Regulation and Legislation

Chairman: O. Krüger (DE)

A9.1.
Rights and duties in the Brazilian waste management and industrial policies harmony or controversy?
A. PELUCIO, M. LEITÃO, P. IGLECIAS (BR)

A9.2.
General resource recovery (waste) exemptions in New South Wales, Australia –initiatives and problems
J.M. NASH, M.J. THOM, T. WRIGHT (AU)

A9.3.
Is China's legislation on waste management successful? Evidence from urban Chinese waste management practices
B. STEUER, S. SALHOFER, R. LINZNER, F. PART (AT)

A9.4.
Waste management and disaster prevention in Brazilian law: a necessary dialogue towards urban resilience
J.M.A. MENDES, M.P. LEITÃO, A.C.C.F.A. SILVA, P.F.I. LEMOS (BR)

Discussion

11:30 –13:30 ***Room* - SIROCCO**

SESSION B9:
EASETECH Model

Chairmen: T. Christensen (DK),
A. Damgaard (DK)

B9.1.
EASETECH – A dedicated waste management LCA-model
T. CHRISTENSEN, A. DAMGAARD (DK)

***Description*:** EASETECH is a new model for the environmental assessment of environmental technologies that is based on experience gained in the field of waste management modelling over the last decade. The model applies the same concepts to systems with different kinds of material flows, e.g. sludge, shredder waste, wastewater, biomass for energy production, bio-refinery and treatment of contaminated soil. The software is consider the new generation model of EASEWASTE that was developed at Technical University of Denmark (DTU).

Discussion

11:30 –13:30 ***Room*** **- PUNENTE**

SESSION C9:
Municipal Solid Waste Management

Chairman: R. Stegmann (DE)

C9.1.
Characterization of municipal solid waste: Preliminary assessment of regular and selective collections in a municipality of southern Brazil
V.E. SCHNEIDER, D. PERESIN, V. CASAGRANDE, S.L. SANTOS, A.R. ROSA (BR)

C9.2.
Potential for electric energy production from MSW by-products and biosolids using thermal processes in Chania Region, Greece
M. FARAZAKI, I. MERTARAKI, P. GIKAS (GR)

C9.3.
Evaluation of the implementation of waste prevention plant in local authorities
I.VOUKKALI, P.LOIZIA, A.A.ZORPAS, K.LASARIDI, C.CHRONI, C. ABELIOTIS, A. GEORGIOU, K.FANOU, D.PYRILLI, P.GOUMENOU, L.FITIRI, P.TRISOKKA, N. BIKAKI, P. VOUKKALI (CY)

C9.4.
Use of methane gas from the waste decomposition in energy production and carbon credits – landfill models in Sao Paulo/Brazil
P.F.I. LEMOS, R.H.FUNARI, A.C.C.F.A. SILVA (BR)

C9.5.
Co-processing in waste management in Rio de Janeiro state
C.F. MAHLER, A.O. FERRAZ (BR)
Discussion

11:30 –13:30 ***Room*** **- LEVANTE**

IWWG WORKSHOP D9:

Resource Potential of Bottom Ash Landfills

Chairman: M. Ritzkowski (DE)

D9.1.

Metals in bottom ash landfills – resource potential and recovery options

M. RITZKOWSKI, V. ENZNER, K. KUCHTA (DE)

D9.2.

Removal of hydrogen sulphide with the use of MSWI bottom ash and wood ash

P. MOSTBAUER (AT)

D9.3.

Stabilization of heavy metals in bottom ash by enhanced carbonation under static and dynamic conditions

T. BRENNE, T. WIESER, S. WESSEL-BOTHE, T. MANSFELDT, H. WEIGAND (DE)

D9.4.

Resource recovery from hazardous waste – the case of MSW incineration fly ashes

J. FELLNER, J. LEDERER, A. PURGAR, A. WINTERSTETTER, H. RECHBERGER, F. WINTER (AT)

Discussion

11:30 –13:30 ***Room*** **- LIVA**

WORKSHOP E9:

Hospital Waste Management in Greece (in Greek)

Διαχείριση Αποβλήτων σε Υγειονομικές Μονάδες στην Ελλάδα

Chairmen: E. Voudrias (GR), P.Merkos (GR)

E9.1.

Διαχείριση στερεών αποβλήτων Υγειονομικών Μονάδων: Νομοθεσία και Τεχνολογίες

Ε. ΒΟΥΔΡΙΑΣ (GR)

E9.2.

Διαχείριση και τεχνολογίες υγρών αποβλήτων Υγειονομικών Μονάδων

Ι. ΒΑΡΘΑΛΙΤΗΣ (GR)

E9.3.

Περιπτώσεις παράνομης διάθεσης επικινδύνων υγρών αποβλήτων – Εφαρμογή περιβαλλοντικής ευθύνης

Β. ΔΑΛΑΜΑΓΚΑΣ, Σ. ΚΑΒΟΥΡΗ, Π. ΜΕΡΚΟΣ, Α. ΠΑΠΑΔΕΛΗΣ, Σ. ΣΤΑΣΙΝΟΣ, Ε. ΧΑΛΑΡΑΚΗΣ (GR)

E9.4.

Ιστορικό διαχείρισης της τέφρας των εγκαταστάσεων αποτέφρωσης επικινδύνων ιατρικών αποβλήτων, εντός της ολοκληρωμένης εγκατάστασης διαχείρισης απορριμμάτων (Ο.Ε.Δ.Α.) του Δήμου Άνω Λιοσίων, Αθήνα, Ελλάδα

Ε. ΓΙΔΑΡΑΚΟΣ, Σ. ΕΛΕΥΘΕΡΙΑΔΟΥ, Π. ΜΕΡΚΟΣ, Γ. ΜΠΟΥΜΠΟΥΚΑΣ, Σ. ΣΤΑΣΙΝΟΣ (GR)

Discussion

13:30 – 15:30 Lunch Break

15:30 – 16:00 **Poster Session**

Discussion

Exhibition on
“SEA WASTE CONTAMINATION”
&
“ENVIRONMENTAL EFFECTS OF WAR WEAPONS”

16:00 –18:00 ***Room*** **- MAISTRO**

SESSION A10:

Management of City Waste

Chairman: R. Cossu (IT)

A10.1.

The complex cleaning of a very large city

C. MACHLINE (BR)

A10.2.

Proposed prevention actions in relation to specific waste stream and target groups from Cyprus strategic plan

I. VOUKKALI, P. LOIZIA, A.A. ZORPAS, M. SAMARA MILIOTOU, C. KALIROE (CY)

A10.3.

Reverse logistics model of pharmaceutical waste and residential health facilities of the city of Caxias do Sul, Rio Grande do Sul – Brazil

V. E. SCHNEIDER, C. LAZZARETTI, A. R. ROSA (BR)

A10.4.

Environmental rehabilitation due to uncontrolled hazardous waste disposal. Case study in central Greece

E. CHALARAKIS, V. DALAMAGAS, S. KAVOURI, P. MERKOS, S. STASINOS (GR)

A10.5.

Assessment of potential mutagenic activity of leachate from a municipal solid waste landfill on two higher plants

D. KOPLIKU, A. MESI (AL)

Discussion

16:00 –18:00 ***Room*** **- SIROCCO**

SESSION B10:

End-of-Life Automotive and Tires Management

Chairman: M. Zanetti (IT)

B10.1.

End of life tyres: analysis of the situation and possible solutions for tyre rubber reuse and/or recycling

M. ZANETTI (IT)

B10.2.

The potential usage of old tires as part of forest road pavements

A. STERGIADOU (GR)

B10.3.

Enhanced removal of mixture of petroleum and chlorinated aliphatic hydrocarbons using microorganisms immobilized in scrap tires

Q. LU, J. LI, R.A. DE TOLEDO, F. XIE, X. CHEN, H. SHIM (CN)

B10.4.

On the difficulty of sitting a sanitary landfill: The case of automotive shredder residue

J. MERY, M. MATIAS (FR)

B10.5.

Recovery of critical raw materials from end-of –life vehicles- Results from dismalting trials for the German EPA

K. SANDER, R. KOHLMEYER, W. KAERGER, M. GROKE, M. BERGAMOS (DE)

Discussion

16:00 –18:00 ***Room*** **- PUNENTE**

SESSION C10:

Mining and Radioactive Waste

Chairmen: P. Amosov (RU), S. Pensaert (BE)

C10.1.

Storage capacity optimization of tailing ponds by means of mechanical dewatering

S. PENSAERT, K. VAN DE VELDE (BE)

C10.2.

Management of mine water treatment residues at WISMUT sites

A. KASSAHUN, H. KLAUßNER, J. MEYER, M. PAUL (DE)

C10.3.

Thermophysical model for study of permafrost thermal state of SNF underground isolation facility of Bilibinskaya NPP

N. MELNIKOV, P. AMOSOV, N. NOVOZHILOVA (RU)

C10.4.

Treatment of waters in the Villasalto old antimony mine (SE Sardinia, Italy) by using natural materials

G. MEI, S. NAITZA, R. PERETTI, A. SERCI, A.ZUCCA (IT)

C10.5.

The German WISMUT Environmental remediation programme

M. PAUL, S. MANN, A. KASSAHUN (DE)

Discussion

16:00 –18:00 ***Room*** **- LEVANTE**

IWWG WORKSHOP D10:
Innovations in Industrial Waste Management

Chairman: E. Gidarakos (GR)

D10.1.
The role of waste management in today's industry and strategies for 2020
E. GIDARAKOS (GR)

D10.2.
Flue gas CO_2 capture using calcium-rich industrial wastes as potential sorbents
S.C. TIAN, F. YAN, K.M. LI, T.R. LI, J.G. JIANG (CN)

D10.3.
Exploitation of rice husk ash as a pozzolanic material for the construction industry
J.G. TAPALI, V.G. PAPADAKIS (GR)

D10.4.
How to remove H_2S from biogas using steel slag as reactive material in fixed bed reactor
L. SARPERI, A. SUBRENAT, A. KERIHUEL, F. CHAZARENC (FR)

D10.5.
Valorization options of a lignocellulosic waste: Influence of raw materials used in pulping
C. RUEDA, N. QUIJORNA, G. RUIZ, A. ANDRÉS, A. COZ (ES)

Discussion

16:00 –18:00 ***Room*** **- LIVA**

WORKSHOP E10:

Management of Metal Contaminated Substrates

Chairman: A. Xenidis (GR)

E10.1.

Reductive roasting of red mud for iron production

I. SOFRAS, D. SPARIS, A. KOURTIS, C. ZOGRAFIDIS, A. XENIDIS (GR)

E10.2.

Assessment of heavy metal contamination in Souda marine sediments

K. KOMNITSAS, I. PYLIOTIS, D. ZAHARAKI, E. MANOUTSOGLOU (GR)

E10.3.

Effect of incineration conditions of a tannery sludge on the valence of the resulting ash chromium content

P. KAVOURAS, E. PANTAZOPOULOU, S. VARITIS, E. PAVLIDOU, G. VOURLIAS, K. CHRISSAFIS, G.P. DIMITRAKOPULOS, M. MITRAKAS, A.I. ZOUBOULIS, TH. KARAKOSTAS, A. XENIDIS (GR)

E10.4.

Ecotoxicity and phytotoxicity assessment of chromium-rich tannery sludge

E. PANTAZOPOULOU, O. ZEBILIADOU, P. SAMARAS, A. ZOUBOULIS (GR)

E10.5.

Inhibition of pyrite oxidation using Si-catechol complexes

K. KOLLIAS, E. MYLONA, N. PAPASSIOPI, A. XENIDIS (GR)

Discussion

18:00 – 18:30 Coffee Break

CLOSING SESSION

18:30 – 20:30 ***Room*** **- MAISTRO**

Dr. Ralf Trapp
International Disarmament Consultant (FR)
"Effects of Wars on the Environment"

ROUND TABLE DISCUSSION

POSTER AWARDS
Evaluating Committee:
P.J. He (CN)
E. Diamadopoulos (GR)
K.E. Lorber (AT)

21:30 – …….. Gala Dinner

Excursion to the Exotic Beach of Elafonisi, Day Trip

We start at 09:00 am from “Avra Imperial Hotel” going westwards. We stop at the Agia Sofia cave and chapel. Café and facilities. Then relax to Elafonisi Beach. Lunch at a Cretan family tavern. Arrival at the hotels at 18:30 pm.

Sailing Day Trip

We start at 10:00am from Old Harbour of Chania and arrive at 17:00pm.

Posters

P1. *Speciation of heavy metals in fibre sludge from the nssc-pulp mill*
R. PÖYKIÖ, K. MANSKINEN, H. NURMESNIEMI, J. OKSANEN, O. DAHL (FI)

P2. *Heavy metal volatilization from sludge ash by microwave enhanced thermochemical treatment*
M. ŠYC, P. KAMENÍKOVÁ, J. SOBEK, M. POHOŘELÝ, K. SVOBODA, M. PUNČOCHÁŘ (CZ)

P3. *Characterization of plastic shredder fractions from waste of electrical and electronic equipements*
V. DECOTTIGNIES, M. BOURGEOIS, C. MATHIEU, S. ZARIATTI (FR)

P4. *Extractability of heavy metals in wood-based fly ash from a large-sized (115 mw) industrial power plant by artificial sweat, saliva, intestinal and gastric fluids*
R. PÖYKIÖ, O. DAHL, H. NURMESNIEMI (FI)

P5. *Use of electrocoagulation for removing toxic metals from an industrial wastewater with Fe-Fe electrodes*
E. GATSIOS, J. HAHLADAKIS, E.GIDARAKOS (GR)

P6. *Using bioassays to assess the extent of bioremediation of a petroleum sludge land farming site*
A.J. REINECKE, S.A. REINECKE, M. VAN WYK (ZA)

P7. *Electrokinetic removal of toxic metals and PAHs from contaminated sediments using a big cell and periodic electric potential*
A. LATSOS, J. HAHLADAKIS, E.GIDARAKOS (GR)

P8. *Use of zeolite mixtures for the removal of petroleum products*
M. FRANUS, L. BANDURA, W. FRANUS(PL)

P9. *An intergraded study in groundwater remediation from BTEX, Cd^{2+} and Zn^{2+} using compost and zeolite*
F. SIMANTIRAKI, E. GIDARAKOS (GR)

P10. *Effect of pH on the formation and transport of Cu (HEDP) complexes through permselective membranes in an electrodialysis system for metal plating wastewater treatment*
T. SCARAZZATO, D.C. BUZZI, A.M. BERNARDES, J.A.S. TENORIO, D.C.R. ESPINOSA (BR)

P11. *Application of a multi-criteria analysis model in decision making for sewage sludge treatment method*
A. KELESSIDIS (GR)

P12. *Environmental drilling impacts of drilling muds used in search for oil and gas in Poland*
A. JAMROZIK, J. ZIAJA, A. GONET, J. FIJAŁ, K. MACNAR (PL)

P13. *Assessment of the residents' views on hazardous household waste in São Carlos, Brazil*
J.A.B. FERNANDEZ, F.O. NÓBILE, A. A. LOPES, V. SCHALCH (BR)

P14. *Socioambietal reponsability in view of a reality for urban transport companies – a case study of Rio de Janeiro municipality*
M.A.G. FIGUEIREDO, A.S. VIANA (BR)

P15. *A bibliometric analysis of solid waste research in Brazil*
R.A.G. BATTISTELLE, R.M. DEUS, G.H.R. SILVA, B.S. BEZERRA (BR)

P16. *Investigation of the environmental impact of Ptolemais lignite and olive tree residues fly ashes upon recycling to soil*
D. PENTARI, D. VAMVUKA (GR)

P17. *Identification of neodymium-iron-boron permanent magnets in the mechanical treatment process for WEEE*
L. WESTPHAL, J. HOBOHN, K. KUCHTA (DE)

P18. *Characterization of printed circuit main boards prior to separation of precious metals*
F. BURAT, M. ÖZER, F. ARSLAN (TR)

P19. *A social marketing approach for the stimulation of waste of electrical and electronic equipment recycling behaviour*
K. PAPAOIKONOMOU, A. KUNGOLOS, CH. EMMANOUIL, A. GEITONAS (GR)

P20. *Characterization of computers printed circuit boards in order to recover precious metal by nanoparticles*
M.P.K. CALDAS, V.T. MORAES, F.P.C. SILVAS, D.C.R. ESPINOSA, J.A.S. TENORIO (BR)

P21. *Graphic industry in Serbia as a producer of waste substances and materials*
A. PETROVIC, B. SAVIC (RS)

P22. *The possibilities to enlarge the utilization of meat and bone meal in cement industry*
T. STANĚK, P. SULOVSKÝ (CZ)

P23. *Effect of substrate to inoculum ratio on the biochemical methane potential of solid agroindustrial waste*
F.-M. PELLERA, E. GIDARAKOS (GR)

P24. *BCR-extraction properties of heavy metals in flue gas cleaning residue from a 120 MW industrial power plant*
R. PÖYKIÖ, K. MANSKINEN, H. NURMESNIEMI, O. DAHL (FI)

P25. *Reduction of heavy metals in water by the use of humic and fulvic acids*
V. ATHANASIADIS, O. GORTZI, S. LALAS (GR)

P26. *Monitoring of groundwater in areas of final disposal of urban solid waste in Brazil*
A.A. LOPES, J.A.B. FERNANDEZ, R.A.G. BATISTELLE, V. SHALCH (BR)

P27. *Determination of 16 epa-priority polycyclic aromatic hydrocarbons in seawater by solid-phase microextraction coupled with GC/MS*
E. KASTANAKI, E. GIDARAKOS (GR)

P28. *Char of waste tyres for the production of activated carbon and ceramic powders*
G. MAGNANI (IT)

P29. *Extending economy-wide material flow accounting by an indicator focused on recycling: a case study for the Czech Republic*
J. KOVANDA (CZ)

P30. *Toner recycling as a potential source of chemical harmfulness*
B. SAVIC, A. PETROVIC, G. VULETIC (RS)

P31. *Comparative properties of fly-ash products following mechanical activation and hydrothermal synthesis*
N. TSOLAKIDIS, G. KAIMAKAMIS, E. PAVLIDOU, G. VOURLIAS, P. KAVOURAS, TH. KARAKOSTAS, G.P. DIMITRAKOPULOS (GR)

P32. *Co-transport of viruses and clay particles in unsaturated porous media*
V.I. SYNGOUNA, C.V. CHRYSIKOPOULOS (GR)

P33. *Non conventional biodegradation treatment by fungi for the removal of selected pharmaceuticals from effluents*
D. LUKAS, S. RODRIGUEZ- MOZAZ, L. FERRANDO – CLIMENT, C. CRUZ – MORATÓ, M. BADÍA, E. MARCO URREA, G. CAMINAL, T. VICENT, M. SARRÀ, D. BARCELÓ (ES)

P34. *Environmental and social evaluation of established RES projects in Cyprus*
M. TSANGAS, A.A. ZORPAS (CY)

P35. *The comparative analysis of standards and legal base in the field of waste management in Russia and the European Union*
V. STAROSTINA, O. ULANOVA (RU)

P36. *VOLTA GRANDE IV, Volta Redonda, RJ, Brazil: a eighbourhood built on hazardous waste steel*
C.L. CASTRO, R.C.N. OLIVEIRA, R.P. CAMPOS, I.G.P. BRÍGIDA (BR)

P37. *Nickel, chromium, lead and cadmium in soil fertilized with residues and irrigated with waste water*
F.O. NOBILE, J.A.B. FERNANDEZ, M.N.P. HENARES, J.A. GALBIATTI (BR)

P38. *Characterization of video printed circuit boards from computers*
M.M. JIMÉNEZ C., L.F. AROLD, V.T. DE MORAES, J.A.S. TENÓRIO, D.C.R. ESPINOSA (BR)

P39. *National e-waste management system in Costa Rica, technical and administrative barriers to achieve its implementation after regulation approval in 2010*
F. ROA-GUTIÉRREZ (CR)

P40. *Creation a cluster recycling companies in the Baikal Region*
E.V. ZELINSKAIA, N.A. TOLMACHOVA, M.V. KORNYAKOV, A.V. GOLOVNINA , A.S. PRONIN (RU)

P41. *Properties of an environmental lightweight concrete formulated with solid industrial waste and wood aggregates*
M.L. BENMALEK (DZ)

P42. *Hydrolysis and protein yields from cassava peel wastes inoculated with single and mixed cultures of trichoderma viride and lactobacillus delbrueckii NRRL B-763*
O. NWOKORO, F.O. ANYA, I.C. EZE (NG)

P43. *Recovery and bioaccumulation of lithium and rubidium from diluted aqueous waste leachates by microalgae*
P. KASTANEK, P. FEREIRA, F. KASTANEK, G. PROCHAZKOVA, J. JANDOVA, O. KRONUSOVA, V. ZACHLEDER (CZ)

P44. *Refined silicon recovery from e-waste for photovoltaic cells production*
F. KAMEOKA, D.C.R. ESPINOSA, J. A.S. TENORIO (BR)

Future waste management programs must be put into practice in conjunction with sound policies that restrict the use of fossil fuels and natural resources and contribute to the reduction of emissions into the environment. Such a strategy should be based in a sound scientific basis, without ideology, politics or financial interests. It should be implemented on a worldwide basis and not limited to industrialized countries. To achieve this goal, existing waste management options must be evaluated for implementation, new strategies must be formulated and new, innovative solutions have to be found.

Based on this need, the IWWG (International Waste Working Group) was established in 2002, not to contrast or to compete with existing professional organizations but to set up a network with existing national and international organizations with similar goals.

The IWWG aims to provide an intellectual platform to encourage and support integrated and sustainable waste management and to promote practical scientific development in the field.

For further information:
www.iwwg.eu
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