

8ο ΔΙΕΘΝΕΣ ΣΥΝΕΔΡΙΟ

**ΠΕΡΙΒΑΛΛΟΝΤΙΚΗΣ
ΕΠΙΣΤΗΜΗΣ
ΚΑΙ
ΤΕΧΝΟΛΟΓΙΑΣ**

**Λήμνος
8 – 10 Σεπτεμβρίου 2003**

**8th INTERNATIONAL
CONFERENCE**

**ON
ENVIRONMENTAL
SCIENCE
AND TECHNOLOGY**

**Lemnos Island
8 – 10 September 2003**

**ΠΡΟΓΡΑΜΜΑ ΣΥΝΕΔΡΙΟΥ
ΔΗΛΩΣΕΙΣ ΣΥΜΜΕΤΟΧΗΣ**

**CONFERENCE PROGRAM
REGISTRATION FORM**

Διοργάνωση

GLOBAL NEST



GLOBAL NEST

Organised by

**ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΙΓΑΙΟΥ
ΤΜΗΜΑ ΠΕΡΙΒΑΛΛΟΝΤΟΣ**



**UNIVERSITY OF THE AEGEAN
DEPT. OF ENVIRONMENTAL
STUDIES**

**Λήμνος
8 – 10 Σεπτεμβρίου 2003**

**Lemnos Island
8 – 10 September 2003**

GREEK SCIENTIFIC COMMITTEE

MOUSSIOPOULOS N.	Conference Chairman Aristotle University of Thessaloniki
ALBANIS T.	University of Ioannina (GLOBAL-NEST)
ANDREADAKIS A.	National Technical University of Athens (GLOBAL-NEST)
ANGELIDIS M.	University of the Aegean (GLOBAL-NEST)
ASIMAKOPOULOS DEM.	University of Athens (GLOBAL-NEST)
ASSIMACOPOULOS DION.	National Technical University of Athens (GLOBAL-NEST)
BARTZIS I.	Aristotle University of Thessaloniki
BONAZOUNTAS M.	National Technical University of Athens
CHALOULAKOU A.	National Technical University of Athens (GLOBAL-NEST)
DIAKOULAKI D.	National Technical University of Athens (GLOBAL-NEST)
DIAMANTOPOULOS E.	Technical University of Crete
HADJIBIROUS K.	National Technical University of Athens (GLOBAL-NEST)
HELMIS C.	University of Athens (GLOBAL-NEST)
KALOGERAKIS N.	Technical University of Crete
KANAROGLOU P.	University of the Aegean (GLOBAL-NEST)
KARAGIANNIDIS Av.	Aristotle University of Thessaloniki
KARANDINOS M.	Agricultural University of Athens
KARATZAS K.	Aristotle University of Thessaloniki
KARYDIS M.	University of the Aegean (GLOBAL-NEST)
KASSOMENOS P.	University of Ioannina
KORONEOS Ch.	Aristotle University of Thessaloniki
KOUMITZIS Th.	Aristotle University of Thessaloniki (GLOBAL-NEST)
LALAS D.	National Observatory of Greece
LATINOPOULOS P.	Aristotle University of Thessaloniki
LYBERATOS G.	University of Patras (GLOBAL-NEST)
MANDARAKA M.	National Technical University of Athens (GLOBAL-NEST)
MARGARIS N.	University of the Aegean (GLOBAL-NEST)
MYLOPOULOS I.	Aristotle University of Thessaloniki
PANAGIOTAKOPOULOS D.	Democritus University of Thrace (GLOBAL-NEST)
PAPADOPOULOS A.	Aristotle University of Thessaloniki
PILINIS C.	University of the Aegean (GLOBAL-NEST)
SOPHOULIS K.	University of the Aegean (GLOBAL-NEST)
SPYRELLIS N.	National Technical University of Athens (GLOBAL-NEST)
STAMOU A.	National Technical University of Athens (GLOBAL-NEST)
TROUBIS A.	University of the Aegean (GLOBAL-NEST)
TSIHRINTZIS V.	Democritus University of Thrace
TSIROS I.	Agricultural University of Athens (GLOBAL-NEST)
VARNAVAS S.	University of Patras (GLOBAL-NEST)
VLACHOS N.	University of Thessaly
VOUDRIAS E.	Democritus University of Thrace (GLOBAL-NEST)
ZIOMAS I.	National Technical University of Athens

ORGANIZING COMMITTEE

ASSIMACOPOULOS DIONYSSIS	Chairman
TSIROS JOHN	Vice-Chairman
MAKRI CHRISTINE	Member
DIDASKALOU LIA	Member
VASSILIOU HELEN	Member
KOUMENIDIS KOSTAS	Member

INTERNATIONAL SCIENTIFIC COMMITTEE

MOUSSIOPOULOS N.	Conference Chairman Aristotle University of Thessaloniki
ADAMS F.	University of Antwerp (UIA) (GLOBAL-NEST, Belgium)
BERGER G.	University Paris 8 (GLOBAL-NEST, France)
BALABANIS P.	European Commission, DG Research (Greece)
BALLESTEROS P.	European Commission, DG TREN (Portugal)
BILITEWSKI B.	Tehnickal University of Dresden (Germany)
BORREGO C.	University of Aveiro (GLOBAL-NEST, Portugal)
BRENNER S.	Institute for Environmental Research, Tel-Aviv University (GLOBAL-NEST, Israel)
CISTERNAS M.E.	Universidad de Concepcion (GLOBAL-NEST, Chile)
DAVIS J.	University of Florida (GLOBAL-NEST, U.S.A.)
DURAO D.	Instituto Superior Tecnico (GLOBAL-NEST, Portugal)
ELLIOT S.	Mc Master University (Canada)
BENVENUTO F.	University of Venice (GLOBAL-NEST, Italy)
FEDRA K.	Environmental Software & Services GmbH (Austria)
FEINERMAN E.	Hebrew University (Israel)
FERNANDES E.O.	University of Porto (Portugal)
FONTNEYNE J.	European Recovery & Recycling Association (GLOBAL-NEST, Belgium)
GANEV V.	Medical University – Sofia (GLOBAL-NEST, Bulgaria)
GIORGETTI M.F.	University of Sao Paulo-EESC (GLOBAL-NEST, Brazil)
GUO S.	University of Petroleum (GLOBAL-NEST, China)
GRAHAM N.	Imperial College of Science, Technology and Medicine (GLOBAL-NEST, U.K.)
HAMZA A.	University of Alexandria (GLOBAL-NEST, Egypt)
JENSEN A.A.	DK-Teknik Energy & Environment (Denmark)
KOSHLA A.	Development Alternatives (India)
LEKKAS T.D.	University of the Aegean (GLOBAL-NEST, Greece)
MARIN C.	U.N. INSULA (Spain)
MASONI P.	ENEA (Italy)
MASTRAL A.M.	Instituto de Carboquimica (GLOBAL-NEST, Spain)
MOK K.M.	University of Macau (GLOBAL-NEST, China)
NERELL G.	Betania Foundation (GLOBAL-NEST, Sweden)
OPOPOL N.	National Centre for Scientific & Applied Hygiene and Epidemiology (GLOBAL-NEST, Moldavia)
PETROPOULOS E.	Institute of International Health, MSU (GLOBAL-NEST, U.S.A.)
RIZOV N.	National Center of Hygiene (GLOBAL-NEST, Bulgaria)
ROUSE J.	Kumamoto University, (GLOBAL-NEST, Japan)
SCHATZMANN M.	University of Hamburg (Germany)
SMETS E.	Katholieke Universiteit Leuven (GLOBAL-NEST, Belgium)
SOKHI R.S.	University of Hertfordshire (U.K.)
SPILLMANN P.	Rostock University (Germany)
USLU O.	Institute of Marine Science & Technology (GLOBAL- NEST, Turkey)
VAN DEN HOUT D.	TNO (The Netherlands)
VENABLES R.	Environmental Crane Ltd. (GLOBAL-NEST, U.K.)
VLACHOS E.	Colorado State University (U.S.A.)

**3rd Announcement
for the
8th International Conference
on Environmental Science and Technology
(8th CEST)**

This International biennial Conference, eighth in a series (1989, 1991, 1993, 1995, 1997, 1999 and 2001 previous conferences) is organised by the Global Network of Environmental Science and Technology (GLOBAL NEST- G-NEST) and the Department of Environmental Studies of the University of the Aegean.

The aim of the Conference is to present results of research and innovated technologies related to environmental problems, which threaten the quality of life in our planet. In view of the success of the previous Conferences it is expected that the major part of the Greek environmental scientists and engineers as well as a large number of international participants specialising in environmental technology will take part in this event.

Conference Main Subjects

The Conference main subjects will include the traditional environmental topics. However at this Conference, priority will be given to the following subjects:

- Global Environmental Change
- Water Resources Management and Water Quality
- Solid Waste Management and Recycling

The following topics will continue to be in middle of interest of this Conference:

- Air Quality - Atmospheric Pollution
- Liquid Waste Treatment and Management
- Pollution Control Technologies
- Environmental Health
- Environmental Economics - Sustainable Services and Systems
- Life Cycle Management and Sustainable Production
- Environmental Law - Environmental Policies
- Ecosystems Management - Ecology - Eco-design
- Environmental Performance of Enterprises - Eco Auditing

Conference Language

The official conference languages are Greek and English. Papers will be written in English for the inclusion in the proceedings, which are covered by ISI system.

Conference Venue

The Conference will be held take place at Lemnos island, at Porto Myrina Palace Hotel. Participants are encouraged to give the opportunity to their wives/husbands and children to enjoy the beautiful island of Lemnos.

Registration

To register, please fill in and send the attached Registration Form.

The registration fee includes the Conference Proceedings, lunches, beverages, coffees and the official conference dinner.

	For payments till 31/07/2003	For payments after 01/08/2003
Authors	200 €	220 €
Participants	220 €	240 €
Students	130 €	130 €

Please send payment by cheque payable to **Research Unit, University of the Aegean** or by bank draft

Research Unit, University of the Aegean
Alpha Bank, account no 601-00-2001-000060.

Transportation

Access to the island of Lemnos is via plane from Athens and Thessaloniki airports or ferry boat from Athens, Thessaloniki and other islands.

The air tickets to and from the island of Lemnos should be booked long in advance, as the first weeks of September are a high tourist season. The boat tickets should be booked in advance and if a car is taken to the island the return ferry ticket should be ensured.

Bus and taxi services are available at reasonable rates.

Accommodation

Several types of accommodation can be arranged at varying prices.

For hotel accommodation :

- Hotel Porto Myrina Palace, where the Conference will take place can be conducted directly (tel. +30-22540-24805 or 24806; fax +30-22540-24858)

Tourism Directorate of Northern Aegean

6, James Aristarchou str. - 81 100 Mytilene, Lesvos island

Tel/fax: +30-22510-42512 or 42513

Conference Secretariat

University of the Aegean

8th International Conference on Environmental Science and Technology

30, Voulgaroktonou str., GR-114 72 Athens, Greece

Tel.: + 30-210 6492100, 210 6492120

Fax: + 30-210 6492199

E-mail: cest@gnest.org

<http://www.gnest.org/cest>

REGISTRATION FORM
8th INTERNATIONAL CONFERENCE
ON ENVIRONMENTAL SCIENCE AND TECHNOLOGY
8 – 10 SEPTEMBER 2003

Please accept my registration as:

Author

Participant

Student

Proceedings only

Name

Title/Position

Organisation

Department

Address

Telephone

Fax

E-mail

Date

Signature

Please mail or fax to Conference Secretariat:

8th CEST Secretariat

University of the Aegean

30, Voulgaroktonou str., GR 114 72 Athens

Tel. +30-210-6492100, 6492120

Fax +30-210-6492199

E-mail: cest@gnest.org

<http://www.gnest.org/cest>

TIMETABLE OF THE CONFERENCE

MONDAY 8 SEPTEMBER 2003 MORNING	OPENING SESSION 1 - PLENARY SOLID WASTE MANAGEMENT ROOM A (09:00 - 11:40)		
	SESSION 2 WATER RESOURCES MANAGEMENT (1) ROOM A (12:20 - 14:00)	SESSION 3 POLLUTION CONTROL TECHNOLOGIES (1) ROOM B (12:20 - 14:00)	SESSION 4 SOLID WASTE MANAGEMENT (1) ROOM C (12:20 - 14:00)
	SESSION 5 - PLENARY POLLUTION CONTROL AND MANAGEMENT ROOM A (16:30 - 18:10)		
	SESSION 6 WATER RESOURCES MANAGEMENT (2) ROOM A (18:40 - 20:20)	SESSION 7 POLLUTION CONTROL TECHNOLOGIES (2) ROOM B (18:40 - 20:20)	SESSION 8 SOLID WASTE MANAGEMENT (2) ROOM C (18:40 - 20:20)
MONDAY 8 SEPTEMBER 2003 AFTERNOON	SESSION 9 - PLENARY WATER RESOURCES MANAGEMENT ROOM A (09:00 - 10:50)		
	SESSION 10 WATER RESOURCES MANAGEMENT (3) ROOM A (11:30 - 13:30)	SESSION 11 POLLUTION CONTROL TECHNOLOGIES (3) ROOM B (11:30 - 13:30)	SESSION 12 SOLID WASTE MANAGEMENT (3) ROOM C (11:30 - 13:30)
TUESDAY 9 SEPTEMBER 2003 MORNING			

TUESDAY
9 SEPTEMBER
2003

AFTERNOON

SESSION 13 - PLENARY
WASTE WATER MANAGEMENT - ECOSYSTEMS
ROOM A
(16:00 - 17:50)

SESSION 14
WASTE WATER
MANAGEMENT (1)

ROOM A
(18:30 - 20:10)

SESSION 15
GLOBAL CHANGE

ROOM B
(18:30 - 20:10)

SESSION 16
ECOSYSTEMS (1)

ROOM C
(18:30 - 20:10)

WEDNESDAY
10 SEPTEMBER
2003

MORNING

SESSION 17 - PLENARY
GLOBAL CHANGE - AIR POLLUTION
ROOM A
(09:00 - 10:50)

SESSION 18
WASTE WATER
MANAGEMENT (2)

ROOM A
(11:30 - 13:30)

SESSION 19
AIR POLLUTION

ROOM B
(11:30 - 13:30)

SESSION 20
ECOSYSTEMS (2)

ROOM C
(11:30 - 13:30)

WEDNESDAY
10 SEPTEMBER
2003

AFTERNOON

SESSION 21
ENVIRONMENTAL
PERFORMANCE

ROOM A
(16:00 - 17:40)

SESSION 22
BUILT ENVIRONMENT
ISSUES

ROOM B
(16:00 - 17:40)

SESSION 23
VARIOUS TOPICS

ROOM C
(16:00 - 17:40)

SESSION 24 - PLENARY
CLOSURE
ROOM A
(18:00 - 19:30)

PROGRAM OF THE CONFERENCE

Opening

Session 1- PLENARY - SOLID WASTE MANAGEMENT

Monday 8 September 2003 – morning - ROOM A

- 08:00 – 09:00 Registration
- 09:00 – 10:10 Opening
- 10:10 – 10:30 **B. Bilitewski**
Waste and sustainability in Europe (**Keynote address**)
- 10:30 – 10:50 **C. Dodis, K. Kitis, D. Panagiotakopoulos and V. Aivaliotis**
The impact of source separation on the cost of municipal solid waste management systems
- 10:50 – 11:10 **T.C. Voice, S. Hashsham, M. Khire, S. Maher, R. Musleh and X. Zhao**
Full-scale evaluation of bioreactor landfill technology
- 11:10 – 11:30 **U. Imppola, A. Veijanen, K. Hanninen, M. Kyriacou, M. Kotsou, I. Protopapa, M. Kavoussanos, J. Nykanen, A. Halinen and K.E. Lasaridi**
Comparative evaluation of process performance of composting plants in Greece and Finland
- 11:30 – 11:40 **E. Voudrias** Poster Introduction A (Solid Waste Management – Life Cycle Management)
- 11:40 – 12:20 Coffee break and posters

Session 2 – WATER RESOURCES MANAGEMENT (1) – ROOM A

Monday 8 September 2003 – morning - ROOM A

- 12:20 – 12:40 **A.D. Nikolaou, G. Arhonditsis, V. Kolovoyiannis, S. Golfinopoulos and T.D. Lekkas**
Determination, interpretation and modeling of chlorination by-products concentrations in surface waters
- 12:40 – 13:00 **P. Drillia, K. Stamatelatu and G. Lyberatos**
Mobility of pharmaceuticals in soil
- 13:00 – 13:20 **D.A. Lambropoulou, V.A. Sakkas and T.A. Albanis**
Validation of SPME method for the analysis of organophosphorus insecticides in natural waters
- 13:20 – 13:40 **A.D. Dimou, V.A. Sakkas and T.A. Albanis**
Trifluralin photolysis: comparative rates of humic and fulvic substances (isolated from Pamvotis Lake) and photoproducts analysis
- 13:40 – 14:00 **A. Goonetilleke, E. Thomas, S. Ginn and D. Gilbert**
Modelling insights into pollutant wash-off from urban catchments in Queensland, Australia

Lunch break

Session 3 – POLLUTION CONTROL TECHNOLOGIES (1)

Monday 8 September 2003 – morning - ROOM B

- 12:20 – 12:40 **K. Komnitsas, G. Bartzas and I. Paspaliaris**
Clean up of acidic leachates using fly ash barriers. Laboratory column studies
- 12:40 – 13:00 **V. Tellou and I.V. Yentekakis**
Successful use of electropositive promoters in De-NO_x Pt-group metals catalytic chemistry
- 13:00 – 13:20 **A. Halog, M. Sagisaka and A. Inaba**
Assessment of electric vehicle battery technologies using fuzzy linguistic and AHP approaches
- 13:20 – 13:40 **E. Evgenidou, K. Fytianos and I. Poullos**
Semiconductor-sensitized photodegradation of dichlorvos in water
- 13:40 – 14:00 **M. Styliidi, D.I. Kondarides and X.E. Verykios**
Effect of incident photon energy on the kinetics and mechanism of photocatalytic degradation of Azo-dyes in aqueous TiO₂ suspensions

Lunch break

Session 4 – SOLID WASTE MANAGEMENT (1)

Monday 8 September 2003 – morning - ROOM C

- 12:20 – 12:40 **E. Tagaris, R.E.P. Sotiropoulou, C. Pilinis and C.P. Halvadakis**
Methane production and dispersion around landfill sites
- 12:40 – 13:00 **S. Ntougias, C. Ehaliotis, G.I. Zervakis, P. Katsaris and K. Papadopoulou**
Monitoring the composting process of different agricultural wastes and evaluation of the effects of the final products on plants
- 13:00 – 13:20 **M. Chrysochoou, B. Bilitewski, N. Moussiopoulos and A. Karagiannidis**
Comparison of leaching tests for the characterization of waste
- 13:20 – 13:40 **A.K. Karamalidis, M. Maragou and E.A. Voudrias**
Leaching behavior of heavy metals and anions in stabilized/solidified ash from incineration of refinery oily sludge
- 13:40 – 14:00 **S. Papadopoulos, N. Moussiopoulos, C. Vatseris, A. Karagiannidis and M. Chrysochoou**
Development of an integrated tool for contaminated site remediation implementing biological and physicochemical treatment methods

Lunch break

Session 5 – PLENARY - POLLUTION CONTROL AND MANAGEMENT

Monday 8 September 2003 – afternoon - ROOM A

- 16:30 – 16:50 **A. Astrup Jensen**
Life cycle management, a bridge to more sustainable products (**Keynote address**)
- 16:50 – 17:10 **G. San Miguel, S.D. Lambert, N.J.D. Graham, D. Wilson and J. Banks**
Comparative study of different organic and inorganic adsorbents for the removal of metals, organic matter and colour from solution
- 17:10 – 17:30 **A. Andreadakis, D. Mamais, E. Gavalaki and V. Panagiotopoulou**
Evaluation of treatment schemes appropriate for wastewater reuse in Greece

- 17:30 – 17:50 **T.C. Voice, D.T. Long, Z. Radovanovic, J.L. Atkins, S.P. McElmurry, N.D. Niagolova, E.A. Petropoulos and V. S. Ganev**
Critical evaluation of environmental exposure agents implicated in the etiology of Balkan endemic nephropathy
- 17:50 – 18:10 Poster introduction B (Pollution Control Technologies – Waste Water Treatment)
- 18:10 – 18:40 *Coffee break and posters*

Session 6 – WATER RESOURCES MANAGEMENT (2)

Monday 8 September 2003 – afternoon - ROOM A

- 18:40 – 19:00 **K. Haralambidou, V.A. Tsihrintzis and G.K. Sylaios**
Control of saline wedge intrusion in the estuary of Strymonas River using an air curtain
- 19:00 – 19:20 **C. Tzimopoulos and P. Ginidi**
Management of Aghia Varvara's aquifer, using linear programming
- 19:20 – 19:40 **I. Hatzianestis, A. Hantzi, E. Sklivagou and F. Rigas**
Distribution and origin of aliphatic and polycyclic aromatic hydrocarbons in Saronikos gulf sediments
- 19:40 – 20:00 **E. Sklivagou and I. Hatzianestis**
The "Eurobulker" oil spill in South Evoikos Gulf: distribution and fate of aliphatic and polycyclic aromatic hydrocarbons
- 20:00 – 20:20 **G. Kontopoulos, V.A. Catsiki and F. Rigas**
Heavy metal distribution in coastal areas of Saronic Gulf with the aid of the biological indicators *Patella sp.* and *Siphonaria sp.*

Session 7 – POLLUTION CONTROL TECHNOLOGIES (2)

Monday 8 September 2003 – afternoon - ROOM B

- 18:40 – 19:00 **A. Oreopoulou and C. Philippopoulos**
Photocatalytic oxidation of agrochemical industry liquid wastewaters
- 19:00 – 19:20 **F. Rigas, V. Dritsa, J. Chatzidakis and R. Marchant**
Detoxification characteristics of selected *polyporus* species for bioremediation applications
- 19:20 – 19:40 **A. Moutsatsou, M. Gregou, M. Liokalou, D. Matsas and V. Protonotarios**
Mobilization of metals and metalloids from contaminated soil and readsorption on synthesized zeolites and zeolite-fly ash mixtures
- 19:40 – 20:00 **E. Dourdounis, G.N. Angelopoulos, E. Chaniotakis, E. Frogoudakis, D. Papanastasiou and D.C. Papamantellos**
Recycling of metallurgical waste (slag), low grade bauxite and overburden excavation limestones in the production of high quality alumina cement
- 20:00 – 20:20 **E. Katsivela, E.R.B. Moore and N. Kalogerakis**
Monitoring of the in-situ bioremediation of petroleum waste sludge in landfarming sites

Session 8 – SOLID WASTE MANAGEMENT (2)

Monday 8 September 2003 – afternoon - ROOM C

- 18:40 – 19:00 **N. Tugrul, E.M. Derun, M. Piskin and S. Piskin**
Evaluation of pyrite ash wastes obtained by the sulfuric acid production industry

- 19:00 – 19:20 **J. Hetland, S. Lynum and S. Santen**
Thermo-chemical multi-processing of solid waste materials featuring recovery of gas, heat, metals and minerals with complete volume reduction and residue stabilisation
- 19:20 – 19:40 **K. Moustakas, A. Papadopoulos, D. Fatta, K.J. Haralambous and M. Loizidou**
Design and construction of a demonstration plasma gasification / vitrification unit for waste treatment
- 19:40 – 20:00 **C.G. Petaloti, A. Kouras and T. Kouimtzis**
Heavy metals and other elements distribution in the soil of Eordea basin, W. Macedonia, Greece
- 20:00 – 20:20 **D. Dermatas, M. Dadachov, P. Dutko, N. Menounou, P. Arienti and G. Shen**
Weathering of lead in Fort Irwin range soils

Session 9 – PLENARY - WATER RESOURCES MANAGEMENT

Tuesday 9 September 2003 – morning - ROOM A

- 09:00 – 09:20 **H.S. Wheeler and P.W. Daldorph**
Decision support modeling for water quality management: a pre-pilot case study for the EU Water Framework Directive (**Keynote address**)
- 09:20 – 09:40 **T.D. Lekkas, M. Kostopoulou, G. Kolokythas, N. Thomaidis, S. Golfinopoulos, A. Kotrikla, G. Pavlogeorgatos, A. Stasinakis, A.D. Nikolaou, G. Gatidou, A. Petsas, M. Vagi, D. Babos, D. Lekkas and C.A. Makri**
Optimization of analytical methods for the determination of trace concentrations of toxic pollutants in drinking and surface waters
- 09:40 – 10:00 **P. Latinopoulos, E. Antonopoulou and V. Tziakas**
Derivation of the irrigation water demand function: A Greek experience
- 10:00 – 10:20 **C. Tsoutsi and T.A. Albanis**
Optimization of headspace solid-phase microextraction conditions for the determination of various insecticides in tomatoes and cucumber pulp
- 10:20 – 10:40 **A. Gerasidi, P. Katsiardi, N. Papaefstathiou, E. Manoli and D. Assimacopoulos**
Cost-effectiveness analysis for water management in the island of Paros, Greece
- 10:40 – 10:50 **I. Tsiros** Poster introduction C (Water Resources Management)
- 10:50 – 11:30 *Coffee break and posters*

Session 10 – WATER RESOURCES MANAGEMENT (3)

Tuesday 9 September 2003 – morning - ROOM A

- 11:30 – 11:50 **A. Andreadakis, C. Noutsopoulos and E. Gavalaki**
Assessment of the water quality of Lake Plastira through mathematical modelling for alternative management scenarios
- 11:50 – 12:10 **M. Pikounis, E. Varanou, E. Baltas, A. Dassaklis and M. Mimikou**
Application of the SWAT model in the Pinios river basin under different land-use scenarios
- 12:10 – 12:30 **D. Panagoulia and N. Maratos**
Artificial neural network modeling of the rainfall-runoff extreme events
- 12:30 – 12:50 **R.T. Maxey, D.F. Lekkas and H.S. Wheeler**
Intercomparison of forecasting methods for flood warning in the River Cam catchment
- 12:50 – 13:10 **D. Latinopoulos**
Economic valuation of irrigation water: implications from a meta-analysis

13:10 – 13:30 **A. Michailidis, G. Arabatzis, M. Hadio and M. Tsakiri**
Socioeconomic and environmental valuation of some outputs of Petrenia irrigation dam, East Halkidiki

Lunch break

Session 11 – POLLUTION CONTROL TECHNOLOGIES (3)

Tuesday 9 September 2003 – morning - ROOM B

- 11:30 – 11:50 **O.G. Tsapekis, C.E. Salmas and G.P. Androutsopoulos**
Hydrogen sulfide separation from gas streams: selective oxidation into elemental sulfur in aqueous solutions of iron chelates
- 11:50 – 12:10 **P. Baltrenas and R. Vaiskunaite**
Volatile organic compounds elimination in an activated pine-bark charge of a biofilter using cultivated associations of natural microorganisms
- 12:10 – 12:30 **G. Skodras, I. Diamantopoulou, P. Natas, T. Orfanoudaki, P.S. Amarantos, G.G. Stavropoulos and G.P. Sakellaropoulos**
Mercury and PCBs adsorption on activated carbons: experimentation and modelling
- 12:30 – 12:50 **D. Dermatas and X. Meng**
Removal of heavy metals by adsorptive filtration
- 12:50 – 13:10 **K.G. Babi, K.M. Koumenides, A.D. Nikolaou, N.S. Mihopoulos, F.K. Tzoumerkas, C.A. Makri and T.D. Lekkas**
Pilot-plant experiments for the removal of THMs, HAAs and DOC from drinking water by GAC adsorption – Galatsi Water Treatment Plant, Athens
- 13:10 – 13:30 **C. Sikalidis and V. Zaspalis**
Utilization of Mn-Fe solid wastes from electrolytic MnO₂ production, in the manufacture of ceramic building products

Lunch break

Session 12 – SOLID WASTE MANAGEMENT (3)

Tuesday 9 September 2003 – morning - ROOM C

- 11:30 – 11:50 **A. Karagiannidis, A. Xirogiannopoulou and N. Moussiopoulos**
Municipal charges in Greece as a tool for waste charging: a statistical analysis of possible correlations with the population and the number of households in municipalities
- 11:50 – 12:10 **E. Szpadt, J. Den Boer and J. Jager**
Life cycle assessment based tools for the development of integrated waste management strategies for cities and regions with rapid growing economies
- 12:10 – 12:30 **J. Villeneuve, Ph. Wavrer and P. Michel**
Tomorrow's city and its waste. European research provides tools for a better global management of municipal waste
- 12:30 – 12:50 **J. Reichenbach and B. Bilitewski**
Variable pricing schemes in urban waste management - a way to enhance the reduction of waste for final disposal and polluter responsibility. First experiences from the EU co-financed international research co-operation "PAYT"
- 12:50 – 13:10 **G. Schiller**
The urban structure unit approach – A suitable frame for environmental and spatial urban investigations
- 13:10 – 13:30 **C. Koroneos, A. Dompros, N. Dourala and N. Moussiopoulos**
IN-SUSTAIN: Optimising "production-use-consumption" interactions

Lunch break

Session 13 – PLENARY - WASTE WATER MANAGEMENT – ECOSYSTEMS

Tuesday 9 September 2003 – afternoon - ROOM A

- 16:00 – 16:20 **C. Jefferies and J.C. Akunna**
Current trends in the improvement of discharge quality in Scotland (**Keynote address**)
- 16:20 – 16:40 **P.D. Jenssen, P.H. Heyerdahl, W.S. Warner and J.M. Greatorex**
Local recycling of wastewater and wet organic waste - a step towards the zero emission community
- 16:40 – 17:00 **M. Kaasik, T. Ploompuu, T. Alliksaar and J. Ivask**
Alkalisiation and nutrient influx from the air as damaging factors for sub-boreal ecosystem
- 17:00 – 17:20 **M. Karydis and F. Chatzichristofas**
Coastal eutrophication in the Mediterranean marine environment: a short review
- 17:20 – 17:40 **E. Zakyntinos and K. Hadjibiros**
Assessment of two different approaches to conservation of biodiversity
- 17:40 – 17:50 **M. Karandinos** Poster introduction D – (Ecosystems - Environmental Law and Policy)
- 17:50 – 18:30 *Coffee break and posters*

Session 14 – WASTE WATER MANAGEMENT (1) – ROOM A

Tuesday 9 September 2003 – afternoon - ROOM A

- 18:30 – 18:50 **V.J. Inglezakis, M.D. Loizidou and H.P. Grigoropoulou**
Pb²⁺ removal from liquid phase using chelating resin: the effect of operating variables and application of the shrinking core model
- 18:50 – 19:10 **D.A. Georgantas and H.P. Grigoropoulou**
Phosphorus removal from synthetic wastewater using spent alum sludge
- 19:10 – 19:30 **V. Kaimakamidou and T. Yiannakopoulou**
Microbial community structure in the activated sludge process
- 19:30 – 19:50 **K. Stamatelatou, S.N. Dokianakis, M. Fountoulakis, C. Frouda, M.E. Kornaros and G. Lyberatos**
The effects of a common antibacterial pharmaceutical (Triclosan) on biological wastewater treatment processes
- 19:50 – 20:10 **D. Georgiou, J. Dinske, C. Metallinou and A. Aivasidis**
Decolorization of azo-reactive dyes and cotton-textile wastewater using anaerobic digestion and acetate-consuming bacteria

Session 15 – GLOBAL POLLUTION

Tuesday 9 September 2003 – afternoon - ROOM B

- 18:30 – 18:50 **A. Bartzokas, H.D. Kambezidis, S. Darula and R. Kittler**
Sky luminance distribution in Central Europe and the Mediterranean during summer period
- 18:50 – 19:10 **A.D. Vassilev**
Basin's contribution to atmospheric fossil methane (case study: Black Sea)

- 19:10 – 19:30 **E. Doukakis**
The potential consequences of climate change on Kotychi Lagoon
- 19:30 – 19:50 **A. Spyridaki and M. Lazaridis**
Modelling study of fine aerosol and photooxidants during winter at the Mediterranean

Session 16 – ECOSYSTEMS (1)

Tuesday 9 September 2003 – afternoon - ROOM C

- 18:30 – 18:50 **A. Kungolos, S. Hadjisprou, M. Petala, V. Tsiridis, P. Samaras and G.P. Sakellaropoulos**
Toxic properties of cyanide, chromium and organotin compounds and their interactions on *Daphnia Magna*
- 18:50 – 19:10 **Y. Mouzakitis, S. Goutsos, E. Adamides and T. Mentzos**
Greening an industrial estate: towards a methodological transformation
- 19:10 – 19:30 **H. Drinia, N. Tsaparas, A. Antonarakou and G. Goumas**
Benthic foraminiferal biofacies associated with Middle to Early Late Miocene oxygen deficient conditions in the Eastern Mediterranean
- 19:30 – 19:50 **Th. Kargas and K. Hadjibiros**
Landscape ecology and wildfire prevention in the Mediterranean. An application in Catalonia, Spain
- 19:50 – 20:10 **V.P. Apostolidou and C.M. Sophoulis**
Multi-stakeholder processes in ecosystem management: A critical approach

Session 17 – PLENARY - GLOBAL CHANGE – AIR POLLUTION

Wednesday 10 September 2003 – morning - ROOM A

- 09:00 – 09:20 **N. Moussiopoulos**
Recent advances in urban air pollution research (**Keynote address**)
- 09:20 – 09:40 **T.J. Herbert**
Global warming and the relationship of plant canopy structure to latitude
- 09:40 – 10:00 **H.A. Flocas, V.D. Assimakopoulos and C.G. Helmis**
On the distribution of aerosol over the greater Athens area
- 10:00 – 10:20 **J. Mantis, C. Samara, Th. Kouimtzis, G. Grivas, V. Kanouta, A. Karamberi, V. Protonotarios, N. Manalis, A. Moutsatsou, A. Chaloulakou and N. Spyrellis**
Chemical composition of PM₁₀ in the atmosphere of Athens, Greece
- 10:20 – 10:40 **T. Glytsos and M. Lazaridis**
Modeling indoor particulate matter using a comprehensive mathematical model
- 10:40 – 10:50 Poster introduction E (Global Change, Air Pollution, Env. Pollution and Health, Env. Economics, Env. Performance)
- 10:50 – 11:30 *Coffee break and posters*

Session 18 – WASTE WATER TREATMENT (2)

Wednesday 10 September 2003 – morning - ROOM A

- 11:30 – 11:50 **E. Efstathiou, D. Mamais, S. Tsourtis and P. Tridimas,**
Mathematical modelling of primary sludge anaerobic hydrolysis

- 11:50 – 12:10 **E.M.P. Barampouti, S. Mai and A.G. Vlyssides**
A mathematical model for the estimation of anaerobic sludge activity
- 12:10 – 12:30 **E. Gavalaki and A. Andreadakis**
Fate of the sewage organic load in a sewerage system
- 12:30 – 12:50 **A. Katsoyiannis and C. Samara**
Ecotoxicological evaluation of wastewater and sludge samples from the wastewater treatment plant of Thessaloniki, Greece
- 12:50 – 13:10 **V. Diamantis, A. Parisis and A. Aivazidis**
Anaerobic / aerobic treatment of peach canning wastewater
- 13:10 – 13:30 **J. Fillos, K. Ramalingam, L. Carrio and K. Gopalakrishnan**
Process performance evaluation of the primary settling tanks in New York City WPCPs

Lunch break

Session 19 – AIR POLLUTION

Wednesday 10 September 2003 – morning - ROOM B

- 11:30 – 11:50 **N. Moussiopoulos, E.-A. Kalognomou, T. Arvanitis and P.-M. Tzourou**
A comprehensive tool for the prediction and management of air quality in Thessaloniki
- 11:50 – 12:10 **S. Basbas, K. Nikolaou, C. Taxiltaris and I. Maniatis**
Public awareness and behaviour related to environmental and traffic management measures
- 12:10 – 12:30 **E. Terzi and C. Samara**
Gas to particle partitioning of polycyclic aromatic hydrocarbons (PAHs) in two remote sites of Western Greece
- 12:30 – 12:50 **J.A. Michopoulos, C.G. Helmis, Q. Wang, J. Kalogiros, Z. Gao and D.N. Asimakopoulos**
An experimental study of the vertical structure of the marine atmospheric boundary layer
- 12:50 – 13:10 **S. Andronopoulos, A. Sfetsos, J.G. Bartzis and N. Gounaris**
Application of the model ADREA-I to the ESCOMPTE pre-campaign case
- 13:10 – 13:30 **A.B. Prosmittis, E. Diapouli, A. Chaloulakou and N. Spyrellis**
Organic and elemental carbon particulate continuous field measurement in Athens urban area

Lunch break

Session 20 – ECOSYSTEMS (2)

Wednesday 10 September 2003 – morning - ROOM C

- 11:30 – 11:50 **G. Karaberou and S.P. Varnavas**
Biogeochemical processes in a mountain forest environment
- 11:50 – 12:10 **M.V. Triantaphyllou, T. Tsourou, M.D. Dermizakis and O. Koukousioura**
Epiphytal ostracode and benthic foraminiferal assemblages: investigating their role as environmental health proxies in the marine ecosystems of SE Andros island (Middle Aegean Sea, Greece)
- 12:10 – 12:30 **T. Tsitsoni, D. Karamanolis, G. Stamatellos and P. Ganatsas**
Spatial pattern and connection of tree diameter classes in *Pinus halepensis* m. stands after wildfire

- 12:30 – 12:50 **M. Stadler, R.M. Bekker, I.C. Knevel, D. Kunzmann, and J. Schlegelmilch**
A common data standard for life-history traits of the Northwest European Flora
- 12:50 – 13:10 **I.K. Konstantinou, T.A. Albanis, V. Goutner and K. Frigis**
Organochlorine contaminants in eggs of the yellow-legged gull (*Larus cachinnans michahellis*) in the North Eastern Mediterranean: is this gull a suitable biomonitor for the region?
- 13:10 – 13:30 **F. Christoforidou, F. Vlatsiotou, G. Tsirtsis, M. Karydis and N. Korovesis**
Spatial and temporal variability of the ecological system of a seasonal solar saltworks (Kalloni in Lesvos island): implications for salt production

Lunch break

Session 21 – ENVIRONMENTAL PERFORMANCE

Wednesday 10 September 2003 – afternoon - ROOM A

- 16:00 – 16:20 **P. Kokkinos, T. Kizos and C.M. Sophoulis**
Economic and environmental evaluation of farm integrated management: the case of kiwi production farms in Pieria, Greece
- 16:20 – 16:40 **C. Koroneos, G. Drosos, G. Roumbas and N. Moussiopoulos**
Life cycle environmental impact assessment of a solar heater
- 16:40 – 17:00 **G. Tsilingiridis, G. Martinopoulos, M. Ekhrawat and D. Tsipas**
Influence of location on the environmental impact of a domestic solar thermosiphonic system during its life cycle
- 17:00 – 17:20 **M. Mandaraka, K. Makrinou and D. Assimacopoulos**
Self-evaluating and benchmarking environmental performance of businesses: a web-based approach
- 17:20 – 17:40 **P. Karamanos, C.N. Kavouras and I. Kokkiniotou**
The organizational structure of the Environmental Department of Athens International Airport “Eleftherios Venizelos” and its role as a regulator
- 17:40 – 18:00 *Coffee break*

SESSION 22 – BUILT ENVIRONMENT ISSUES

Wednesday 10 September 2003 – afternoon - ROOM B

- 16:00 – 16:20 **A. Avgelis and A.M. Papadopoulos**
The effect of ventilation on the indoor environment quality in a natural ventilated office building, a case study
- 16:20 – 16:40 **C.H. Halios, C.G. Helmis, V.D. Assimakopoulos, H.A. Flocas and M. Petrakis**
Studying indoor air quality in a typical residential apartment in Athens, Greece
- 16:40 – 17:00 **I. Katsiris, A. Stamou, and G. Christodoulou**
Thermal comfort evaluation in office spaces using a CFD model
- 17:00 – 17:20 **E. Andreadaki-Chronaki, K. Manolides and M. Chronaki**
Sustainability of urban areas. The case of Saint John’s social housing settlement
- 17:20 – 17:40 **K.J. Kontoleon and D.K. Bikas**
The impact of temperature variances on thermal inertia factors of opaque elements of the building envelope
- 17:40 – 18:00 *Coffee break*

Session 23 – VARIOUS TOPICS

Wednesday 10 September 2003 – afternoon - ROOM C

- 16:00 – 16:20 **D.T. Long, T.C. Voice, N.D. Niagolova, S.P. McElmurry, E.A. Petropoulos, V.S. Ganev, I. Havezov and K. Chou**
Aqueous geochemistry of groundwater in a region affected by Balkan endemic nephropathy
- 16:20 – 16:40 **M. Gazouli, J. Ikonopoulou, P. Zacharatos, I. Pavlik, M. Bartos, P. Svastova, N. Cook and V. Gorgoulis**
Incidence of *Mycobacterium avium* subsp. *paratuberculosis* in soft cheese in Greece
- 16:40 – 17:00 **K. Perdikea, E. Psillakis and N. Kalogerakis**
Solid-phase microextraction to determine the migration of phthalates from plastic ware to drinking water
- 17:00 – 17:20 **M. Zakikhani, D.W. Harrelson, J.C. Pennington, J.M. Brannon, M.K. Corcoran, J. Clark and W.A. Sniffen**
Study of environmental impact and natural attenuation of explosives
- 17:20 – 17:40 **V.A. Sakkas and T.A. Albanis**
Simulated solar degradation of dichlofluanid using TiO₂ suspensions
- 17:40 – 18:00 *Coffee break*

Session 24 – PLENARY - CLOSURE

Wednesday 10 September 2003 – afternoon - ROOM A

- 18:00 – 18:20 **D.B. Kittelson**
On-road nanoparticle measurements (**Keynote address**)
- 18:20 – 18:40 **Z. Samaras and E. Vouitsis**
An experimental and theoretical investigation of parameters affecting nanoparticle formation in diesel exhaust sampling
- 18:40 – 19:00 **D. Diakoulaki and G. Mavrotas**
Classification of EU countries with respect to multiple environmental indicators
- 19:00 – 19:30 Chairman's conclusions – Closure
- 21:30 *Official dinner*

POSTER PRESENTATIONS

Monday 8 September 2003

A: Solid Waste and Life Cycle Management

- | | | |
|-----|--|------------------------|
| A1 | R. Alvarez, C. Clemente, D. Gomez-Limon, M.A. Diaz-Bautista, A.M. Mastral, M.S. Callen, R. Murillo, T. Garcia and J.M. Lopez
Non-fossil fuels in energy generation | SWM¹ |
| A2 | J. Balios
Nutritional value of fish by-products, and their utilization as fish silage in the nutrition of poultry | SWM |
| A3 | E.M. Derun, I. Y. Elbeyli, N. Tugrul and S. Piskin
Utilization of boric acid wastes as an additive in lightweight concrete | SWM |
| A4 | I. Fountoulis, D. Mariolakos, E. Spyridonos and E. Andreadakis
Geological criteria and methodology for landfill sites selection | SWM |
| A5 | J. Gašiorek and R. Kozłowski
Removal of heavy metals from solid waste and the application of the latter to agriculture | SWM |
| A6 | A.H. Grigoriou
Potential for recycling waste paper in wood composites using isocyanate binder | SWM |
| A7 | A. Karagiannidis, N. Moussiopoulos, G. Diamandopoulos, K. Kaggelidis and G. Perkoulidis
Simulation modelling software for integrated solid waste management at Regional level | SWM |
| A8 | A. Karagiannidis, A. Papadopoulos, N. Moussiopoulos, G. Perkoulidis, Th. Tsatsarelis and A. Michalopoulos
Characteristics of wastes from electric and electronic equipment in Greece: results of a field survey | SWM |
| A9 | G.P. Karayannidis, D.S. Achilias, I. Sideridou and D.N. Bikiaris
Chemical recycling of PET by glycolysis. Alkyl resins derived from the glycolised PET | SWM |
| A10 | P. Konstantinidis, A. Giarikis and J.K. Kaldellis
Evaluation of domestic – waste collection system of Nikaia municipality. Improvements proposals | SWM |
| A11 | U. Meekum and R. Kenharaj
Effect of photo accelerators on the degradation of polystyrene foam | SWM |
| A12 | C. Plöchl, G. Dobson and U. Buell
Factors influencing municipal waste arising and composition | SWM |
| A13 | H. Skilodimou, G. Bathrellos and A.Kelepertzis
The occurrence of slags and wastes of the past mining and metallurgical activities within beachrocks of the Southwestern Lavreotiki Peninsula; the environmental impact | SWM |
| A14 | Chr. Tsompanidis, G. Lolos, K. Paschali-Manou and Th. Lolos
Solid waste management in the Northern Aegean Region – Current situation and prospects | SWM |

¹ SWM – Solid Waste Management

A15	Th. Tzevelekou, I.E. Alexopoulou, F. Hoefler, G. Rentizelas, J. Gaitanos and D.C. Papamantellos New Process environmental friendly concept for the recycling of R/K E-filter dust in the ferronickel production	SWM
A16	M. Valakostas, S. Traganitis, K. Aravossis and A. Kungolos Innovative technical and environmental aspects in planning, constructing and operating the sanitary landfill of Larissa	SWM
A17	E.V. Voulgaridis, C.N. Passialis and J.L. Philippou Experimental results of reclaimed polysterene utilisation in wood products	SWM
A18	C. Koroneos, G. Theodosiou and N. Moussiopoulos Classification and analysis of software support tools for environmentally friendly product design	LCM²
A19	M. Meo, T. Hughes and J. Laguros Hydrogen production from the wind: prospects for Oklahoma	LCM
A20	A. Nikolaou and D. Diakoulaki Life cycle assessment of a bio-electricity system in Greece	LCM
A21	T.E. Poirazis and V.A. Tsihrintzis Office building refurbishment based on assessment of energy and natural resource conservation	LCM
A22	I. Tsikos and D. Mariolakos The use of LCA for the application of ISO 14000 in cotton processing industry	LCM
A23	G.T. Tsoufas and C.P. Pappis Analysis of environmental parameters in closed-loop supply chains design	LCM

B: Waste Water Management and Pollution Control Technologies

B1	M.O. Angelidis, M. Aloupi and A.M. Gavriil Trace metal distribution in urban effluents of Mytilene: results from a five years monitoring program	WWM³
B2	G. Hatziconstantinou and H. Efstathiou Direct activated sludge centrifuge dewatering	WWM
B3	V.J. Inglezakis, M.D. Loizidou and H.P. Grigoropoulou Short-cut design of ion exchange and adsorption fixed bed operations for wastewater treatment	WWM
B4	S. Lympelopoulou, P.A. Paraskevas and T.D. Lekkas Evaluation of the efficiency of Sparti's upgraded and expanded sewage treatment plant	WWM
B5	R. Machunda Decontamination of fish waste and water hyacinth mixture: batch studies	WWM
B6	C. Marazioti, M. Kornaros and G. Lyberatos Impact of the feed fraction of an SBR-System in the nitrification-denitrification process	WWM
B7	V.M. Matsis and H.P. Grigoropoulou Removal of odorous compounds in wastewater with a stripping process	WWM

² LCM – Life Cycle Management

³ WWM – Waste Water Management

B8	M. Sakellariou-Makrantonaki, I. Tentas, A. Koliou, D. Kalfountzos and P. Vyrilas Irrigation of ornamental shrubs with treated municipal wastewater	WWM
B9	E. Vaiopoulou, P. Melidis and A. Aivasidis Continuous BOD monitoring in the effluent of an activated sludge treatment plant	WWM
B10	A. Vallejo, J.A. Diez, L.M. Lopez-Valdivia, A. Arce and S. Lopez-Fernandez Nitrous oxide and denitrification N-losses from an irrigated sandy loam soil fertilised with organic N fertilisers in Central Spain	WWM
B11	S. Antonaraki, D. Dimotikali, A. Hiskia and E. Papaconstantinou Photocatalytic decomposition of aqueous solution of Lindane in the presence of $PW_{12}O_{40}^{3-}$	PCT ⁴
B12	J.A. Diez, M.L. Munoz, A. de la Torre, A. Vallejo and P. Hernaiz Effect of the application of pig slurry on soil pollution in a Mediterranean climate	PCT
B13	A. Esmaili, S. Nasser, A.H. Mahvi and R. Atash-Dehghan Adsorption of lead and zinc ions from aqueous solutions by volcanic ash soil (VAS)	PCT
B14	J.C. Garcia-Gil, C. Plaza and A. Polo Utilization of biological parameters as early indicators of soil restoration in a long-term field experiment with municipal waste compost	PCT
B15	N. Karagiannidis, K. Tsakelidou and D. Almaliotis Incorporation of a solid industrial manganese waste into the soil improves yield of crops	PCT
B16	S. Karamoutsos, I.E. Alexopoulou, V. Stivanakis, P. Fotias and D.C. Papamantellos Investigation of the safe disposal of sintered oil fired power station solid residues	PCT
B17	E. Kokkalis, Th. Kouimtzis, C. Samara and A. Anastopoulos Removal of PCBs from polluted and spiked soils and sediments using surfactants	PCT
B18	A. Kotsifa, D. Kontarides and X. Verykios Selective catalytic reduction of NO by C_3H_6 over bimetallic Rh-Ag/ Al_2O_3 and Rh-Ru/ Al_2O_3 catalysts	PCT
B19	D.K. Liguras and X.E. Verykios A Novel, highly efficient and environmentally friendly process for combined heat and power production from biomass	PCT
B20	A.M. Mastral, T. Garcia, M.S. Callen, R. Murillo, J.M. Lopez and M.V. Navarro PAH pollution control technology	PCT
B21	A. Mountouris, E. Voutsas, K. Magoulas, M. Vardavoulias and D. Tassios Plasma waste treatment: process design and energy optimization	PCT
B22	A. Moutsatsou, A. Vlyssides and A. Korkolis Treatment of acidic industrial wastewaters and simultaneous production of an exploitable solid product	PCT
B23	V.E. Stivanakis, D.K. Papamantellos and E. Galanoulis Properties on the utilization of lignite combustion residues from the Thermal Power Plan of Megalopolis, in Greece	PCT

Tuesday 9 September 2003

⁴ PCT – Pollution Control Technologies

C: Water Resources Management, Water Quality, Groundwater and Marine Pollution

C1	P. Anastasiadis Vulnerability of groundwater to agricultural activities pollution	WRM⁵
C2	N. Chrysoulakis, M. Diamandakis and P. Prastacos GIS Integration of ASTER stereo imagery for the support of watershed management	WRM
C3	K. Fytianos and A. Lourantou Chemical speciation of elements in sediment samples collected at lakes Volvi and Koronia, N. Greece	WRM
C4	R. Gonzalez-Ponce, C. Plaza, J.C. Garcia-Gil and A. Polo Nitrogen transformations in pig slurry amended soils under aerobic incubation	WRM
C5	A. Karakos, X. Skoulikaris, J.M. Monget and H. Jerrentrup The broadcasting on Internet of water DPSIR indicators. Experiment on the Nestos delta, Greece	WRM
C6	A. Loukas, L. Vasiliades and N.R. Dalezios Intercomparison of meteorological drought indices for drought assessment and monitoring in Greece	WRM
C7	A. Loukas, L. Vasiliades and N. Mpastrogiannis Water balance modeling for the evaluation of surface water resources	WRM
C8	O.G. Manoliadis and K.I. Vatalis An environmental impact assessment decision analysis system for irrigation systems	WRM
C9	I. Mariolakos, I. Fountoulis, E. Spyridonos, E. Capourani and E. Andreadakis Sustainable water resources management in Neotectonic basin systems	WRM
C10	S. McElmurry, I. Aslam, A.U. Syed, T.C. Voice, D.T. Long, M.S. Phanikumar, D.P. Lusch and W.J. Northcott Determining the effects of various land uses within Michigan State University's watershed on water quality in the Red Cedar river	WRM
C11	S. Naoum and I.K. Tsanis Estimating rainfall at ungauged locations using topographical and geographical features by means of multiple linear regression	WRM
C12	V. Ovezikoglou, M. Ladakis, M. Dassenakis and M. Scoullou The fluctuation of nutrients and organic carbon in the waters of some rivers in the western Greece	WRM
C13	E. Pagourtzi, K. Nikolopoulos and V. Assimakopoulos GFIS (Geographic Forecasting Information System): a case study in water resources management	WRM
C14	E. Papadopoulou, E. Varanou, E. Baltas, A. Dassaklis and M. Mimikou Estimating potential evapotranspiration and its spatial distribution in Greece using empirical methods	WRM
C15	G. Zobanakis, E. Baltas, A. Dassaklis and M. Mimikou Quantifying surface runoff in the water district of Western Macedonia using multiple regression analysis and G.I.S.	WRM
C16	N. Giannoulis, V. Maipa, I. Konstantinou and I. Dimoliatis Microbiological risk assessment of Agios Georgios source supplies in Northwestern Greece based on <i>faecal coliforms</i> determination and sanitary inspection survey	WQ

⁵ WRM – Water Resources Management

C17	B.S. Jayasinghe, M.I.F.P. Jayawardene and K.A.S. Pathiratne Quantification of total chromium and hexavalent chromium in water by electrothermal atomic absorption spectrometry	WQ⁶
C18	N. Karagiannidis, S. Bladenopoulou, P. Psoma and N. Stavropoulos Water quality of irrigation wells in eastern Thessaloniki region	WQ
C19	M. Mitrakas, J. Bougiouklis, J. Georgiou and R. Tzimou-Tsitouridou Difference in the treatment for particulates removal from surface and ground waters - the cases of Sidirokastro and Velvendo	WQ
C20	M. Dimopoulos, M. Chalkiadaki, M. Dassenakis and M. Scoullas Quality of groundwater in western Thessaly. The problem of nitrate pollution	GW⁷
C21	J.D. Demetriou Polluted water effluent in the sea	MP⁸
C22	M. Eleftheriadou and M. Skoullas Nutrient and trace metal distribution in Astakos Bay, Aetoloakarnania, Greece	MP

D: Environmental Law and Policy – Ecosystems

D1	A. Sepetis, G. Halkos and C. Sophoulis The impact of the environmental policy and management planning on the shareholder value: evidence from the Greek market	EL-EP⁹
D2	M. Skourtos and A. Kontogianni Shared waters - shared responsibility. Application of the principles of burden sharing in the Mediterranean	EL-EP
D3	H. Vakoufaris, I. Nikolaou, C. Sophoulis and I. Spilanis Rural niche products from less favoured areas: a viable policy or transient emergency solution?	EL-EP
D4	G. Valaoras and T. Tziouvas Wildlife trade in Greece: how to improve the implementation of the European Union CITES regulations	EL-EP
D5	Z. Andreopoulou and L.S. Iliadis The E-organization of human resources' data and its potential in regional forest administration in Greece	ECO¹⁰
D6	A. Antonarakou and H. Drinia Climatic variations during Sapropel deposition in Gavdos island, eastern Mediterranean Sea: a key for understanding formation processes	ECO
D7	G. Arapis, C. Saitanis and G. Salakou Caesium-137 distribution in the soil in a semi-natural ecosystem in Greece	ECO
D8	E. Beriatos Nature protection policy and protected areas: the case of National Parks	ECO
D9	M. Christou, M. Mardikis, E. Alexopoulou, S.L. Cosentino, V. Copani and E. Sanzone Environmental studies on Arundo Donax	ECO

⁶ WQ – Water Quality

⁷ GW – Ground water

⁸ MP – Marine pollution

⁹ EL-EP – Environmental Law – Environmental Policy

¹⁰ ECO - Ecosystems

D10	P. Delimani and G.S. Xeidakis Environmental problems in Lake Vistonis Thrace region, Northern Greece	ECO
D11	C.S. Doukas, J. Dimitriou and A. Antonarakou Paleoecological restrictions and applications in micropaleontology	ECO
D12	P.Ch. Eskioglou Forest engineering and environment protection	ECO
D13	P. Ganatsas and M. Tsakalidimi Root system modification of <i>pinus brutia ten.</i> Species under adverse ecological conditions	ECO
D14	G. Gatidou, A. Kotrikla, V. Rontogianni, N.S. Thomaidis and T.D. Lekkas Toxic effects of the antifouling biocide Irgarol 1051 and its principal metabolite on the green alga <i>dunaliella tertiolecta</i>	ECO
D15	I. Gatsis, Is. Parcharidis and A. Pavlopoulos The use of fused satellite data (ERS-2 & SPOT-2XS) for mapping of environmentally sensitive areas in erosion: the case study in Korinthos area (NE Peloponnese, S. Greece)	ECO
D16	A. Gkaraveli, J. Latham, J.H. Williams and A. Sfougaris Forest restoration in an National Park: modelling suitability of native woodland using GIS and spatial data	ECO
D17	F. Giannakopoulou, C. Haidouti, V. Skarlou and I. Massas The effect of irrigation level and the previously cultivated plant species on ¹³⁴ Cs uptake by the vegetative part of sunflower plants	ECO
D18	K. Hadjibiros, A. Tsouni and K. Vreda Implementation of ecological engineering plans in Greek wetlands	ECO
D19	G.E. Pavlikakis and V.A. Tsihrintzis Evaluation of three multi-criteria decision-making methods in ecosystem management	ECO
D20	A.N. Riga-Karandinos and C. Saitanis First report on the concentrations of PGE (Pt, Pd) biomonitoring in Athens	ECO
D21	E. Shamrikova, T.A. Sokolova and I.V. Zaboieva Effects of acid precipitation and alfisols in the East European Russian Taiga	ECO
D22	D. Zafiroopoulos and L. Merlini A comparative ecological study of bottlenose dolphins (<i>Tursiops truncatus</i>) in South and North Evoikos gulfs	ECO

Wednesday 10 September 2003

E: Global Change, Air Pollution, Environmental Pollution and Human Health, Environmental Economics, Environmental Performance

E1	K. Papagiannaki, S. Mirasgedis, E. Georogopoulou, Y. Sarafidis and D.P. Lalas Estimate of emissions scenarios effects on climate parameters in the Balkan Region	GC ¹¹
E2	K. Topouzelis Wind-scatterometer observation over Amazon rainforest	GC

¹¹ GC – Global Change

- E3 **R.B. Ambrose Jr., I.X. Tsiros and T.A. Wool** **AP¹²**
Predicting environmental concentrations of airborne pollutants in terrestrial receptors: the case of mercury
- E4 **A. Georgakopoulos** **AP**
Chemistry and morphology of fly ash samples from the main lignite power stations of Northern Greece
- E5 **J.K. Kaldellis, K. Chalvatzis, G. Spiropoulos and A. Paliatsos** **AP**
Estimating the energy related air pollutants production in Greece, for the next decade
- E6 **S. Kalligeros, F. Zannikos, S. Stournas, E. Lois, G. Anastopoulos, Ch. Teas and D. Karonis** **AP**
Impact of gasoline quality on engine performance and emissions
- E7 **A. Kelepertsis, D.E. Alexakis, P.T. Nastos and E.A. Kanellopoulou** **AP**
The presence of volcanic ash in western Greece and its association with the eruption of the Aetna volcano, Italy. Consequences on the environment.
- E8 **A.M. Kosmas and Ev. Drougas** **AP**
The $\text{CH}_3\text{O}_2 + \text{ClO}$ atmospheric reaction: Theoretical description and role in stratospheric ozone budget
- E9 **A. Mastral, M.S. Callen, J.M. Lopez, R. Murillo, T. Garcia and M.V. Navarro** **AP**
Atmospheric pollution in the Zaragoza urban area
- E10 **M. Lazaridis, E. Dahlin, J. E. Hansen, J. Smolik, N. Schmidbauer, P. Moravek, V. Zdimal, O. Hermansen, T. Glytsos, T. Svendby and C. Dye** **AP**
Characterization of indoor/outdoor particulate matter physico-chemical characteristics in two residential houses in Oslo, Norway
- E11 **I.K. Panagopoulos, A.N. Karagiannis, P.A. Kassomenos, N. Pavlopoulos and E. Xanthoudakis** **AP**
Selection of an optimum site to construct and develop an airport in the North Aegean using multi criteria analysis
- E12 **A. Platakos, V. Karathanasi and D. Rokos** **AP**
An algorithm for DEM Conversion to wrapped interferometric phase
- E13 **R.E.P. Sotiropoulou, E. Tagaris, C. Pilinis, S. Andronopoulos, N. Gounaris, A. Sfetsos and J.G. Bartzis** **AP**
Estimation of particulate matter concentrations in the greater Athens area by means of the UAM-AERO model
- E14 **A.G. Triantafyllou, N. Kiratzis, M. Voutsinas, H.S. Kiros, V. Evangelopoulos and C. Vatalis** **AP**
Analysis of suspended particulate levels in an industrial area of Greece over a multi-year period
- E15 **T. Trivellas and V. Hrissanthou** **AP**
Study of time series of air pollution in the city of Kavala, Greece
- E16 **L.I. Tsikritzis, S.S. Ganatsios, O.G. Dului and T.D. Sawidis** **AP**
Natural and artificial radionuclides distribution in soil in the vicinity of coal fired plants of West Macedonia, Greece
- E17 **A. Anastasiadis** **EP¹³**
Urban planning and risk management
- E18 **A. Belegri-Rompoli and I. Tsolas** **EP**
Environmental performance measurement at sectoral level: electricity, gas and water

¹² AP – Air Pollution

¹³ EP – Environmental Performance

E19	B. Bolognini, F.E. Ciarapica and G. Giacchetta Strategies for the integration of management standard and systems	EP
E20	N. Dourala, D. Papadopoulou, E. Giama and N. Moussiopoulos Environmental accounting: a decision-making tool for companies	EP
E21	K. Karatzas, K. Fedra, N. Moussiopoulos, A. Lascaratos, L. Perivoliotis, M. Loizidou and D. Fatta Environmental management of a coastal urban area: the ECOSIM project	EP
E22	D.P. Komilis, E. Kouzoumi and C.P. Halvadakis Financial and environmental analysis of typical three phased olive mills in Greece	EP
E23	P.T. Nastos, A.G. Paliatsos, D.B. Panagiotakos, A. Antoniou, C. Chrysohoou, C. Pitsavos and P.K. Toutouzas Associations between primary air pollutants and cardiovascular mortality in Athens	HEALTH¹⁴
E24	C. Koroneos, M. Michailidis and N. Moussiopoulos Multi objective optimization in energy systems: the case of Lesvos island	EE¹⁵
E25	A. Stergiadou, Ch. Stergiadis, V.I. Giannoulas and K.G. Doucas The contribution of different GPS type's in sustainable management (Case: Mountain Chortiatis – Kissos)	EE
E26	P. Soldatos and V. Lychnaras Technical-economic and financial analysis for renewable energy chains: the case of bio-energy	EE
E27	E.I. Voulgaridou The importance of University forest at Pertouli, Trikala, Central Greece, to local economy and qualitative environment	EE

¹⁴ HEALTH – Environmental Pollution and Human Health

¹⁵ EE – Environmental Economics

SIDE EVENTS

INTEGRATED PRODUCT POLICY (IPP) WORKSHOP

Saturday 6 September 2003, 9:30 a.m. to 2:30 p.m. – ROOM C

Integrated Product Policy is an approach which seeks to **reduce the life cycle environmental impacts of products** from the mining of raw materials to production, distribution, use, and waste management. It constitutes the centrepiece of the Commission Communication that proposes a strategy to **strengthen and refocus product-related environmental policies** to promote the development of a market for greener products. The driving idea is that integration of environmental impacts at each stage of the life cycle of the product is essential and should be reflected in decisions of stakeholders. IPP focuses on those decision points which strongly influence the life cycle environmental impacts of products and which offer potential for improvement, notably **eco-design** of products, **informed consumer choice**, the polluter pays principle in **product prices**. It also promotes instruments and tools which target the whole life cycle of products.

The Workshop will cover all the points put forward by IPP and it will concentrate on:

- IPP development
- Life Cycle Management
- Ecodesign, design for the environment
- Ecolabeling and EPDs
- Screening LCA, ranking and scoring systems, and other impact indicators
- Green Public procurement
- Take back initiatives

For Information and registration contact:

Christopher J. Koroneos

Laboratory of Heat Transfer and Environmental Engineering

Aristotle University of Thessaloniki

Box 483, 54124 Thessaloniki, Greece

Tel +30 2310 995968, Secretariat 996011

fax +30 2310 996012

E-mail: koroneos@aix.meng.auth.gr

CONTEMPORARY TRENDS AND NEEDS IN URBAN SOLID WASTE MANAGEMENT
Workshop and Round Table Discussion

Sunday 7 September 2003, morning/afternoon – ROOM C

Communities in Greece and abroad are faced today with the intense issue of managing their solid wastes under even stricter EU norms and requirements, concerning both the quantity and the quality of solid wastes at numerous stages of their logistics chain. Scope of this event is to bring together scientists, local governments, prefectural/regional authorities, research institutions and practitioners in the field of urban solid waste management and to elaborate in the contemporary trends and needs in this field including:

- Polluter-pays principles and concepts in waste collection and service pricing.
- Active promotion of waste prevention and recycling.
- Standardization of the determination of waste characteristics.
- Decision support systems for solid waste management at local and regional level.
- Restoration of disposal sites and contaminated land.
- Determination of and agreement on present knowledge gaps as well as research and action needs.

For this, partners from related on-going European projects will be brought together. In this way, the state of the art concerning European research on solid waste management will be presented. This will be integrated with current best practices and national know-how and will afterwards (in the afternoon session) be presented to the invited end-users (local/regional authorities). Thus, optimum integration of research and practice in waste and environmental management will be promoted at both national and international level.

Avraam Karagiannidis

Lab of Heat Transfer and Environmental Engineering

Aristotle University of Thessaloniki

E-mail: makis@aix.meng.auth.gr

**NANOPARTICLES FROM ROAD VEHICLE EXHAUST. AN ARTIFACT OR A REALITY?
Topics for a Round Table Discussion**

Thursday 11 September 2003, morning – ROOM C

Scientific studies show a link between particulate matter (PM) (alone or in combination with other pollutants in the air) and a series of health effects, suggesting higher social cost of air pollution. Based on this suggestion, governments and international organizations are setting limitations on atmospheric PM mass concentration (air quality standards) and are promulgating reductions in particle emissions from the key sectors. In urban areas where traffic is concentrated, PM concentration is reaching high levels, mainly caused by motor vehicles.

Current and proposed emission standards for motor vehicles employ a mass metric as emission quantification criterion. Properties such as number and size as well composition are not measured on legislative basis due to the complexity of the matter and uncertainties inherent to the characterization procedures. However, in considering the next steps, regulators are posing the question what property of atmospheric aerosol is responsible for the toxic effects and, therefore, whether a more cost-effective solution would be necessary to regulate purely the toxic component.

In this framework, the key questions would appear to be:

1. What is the influence of PM chemical composition on the magnitude of its effect?
2. What is the influence of particle size on the ability of aerosol to induce toxic effects?
3. Are nanoparticles emitted from motor vehicles an issue? How can we measure them? Are they repeatable or random? To what extent they contribute to the atmospheric nuclei mode?
4. Which are the appropriate laboratory sampling/measurement methods to ensure the necessary conditions for more precise characterization? Which instrumentation should be used? What about method's quality criteria (representativity, accuracy, repeatability, reproducibility, etc.)?
5. Which is the most appropriate representation of the transportation sector to the ambient PM concentration? Are emission factors the most appropriate tool for identifying emission sources and considering response scenarios? How can we predict the future based on today's air pollution? What kind of investigation is needed to understand better the processes responsible for dispersion of PM in the urban atmosphere? What is the potential for closer work between exhaust investigators and atmospheric modelers?

Zissis Samaras

Lab of Applied Thermodynamics
Aristotle University of Thessaloniki

THE BUILDINGS' ENERGY BEHAVIOUR AND ITS IMPACT ON THE URBAN ENVIRONMENT: PERSPECTIVES FOR A MORE EFFECTIVE IMPLEMENTATION OF EUROPEAN POLICIES

Thursday 11 September 2003, morning – ROOM B

Buildings shape the urban environment in more ways than, certainly not least with their energy and environmental impact. Significant effort was placed over the last 20 years in reducing energy consumption of buildings, leading in many countries to notable achievements, mainly with respect to heating and domestic hot water requirements. Still, new challenges lie ahead, focusing on the holistic approach of the building over its life cycle. The official proposal for a European Norm (prEN) on the energy performance of buildings became a public document in December 2002, setting the framework that will determine the design, construction and operation of building in the decade to come.

These developments will be discussed in a workshop, which will take place at the **Hotel Porto Myrina**, in **Lemnos**, on **Thursday, September 11th**, as a sequential activity to the **8th International Conference on Environmental Science and Technology (8th CEST)**.

The workshop is organized by the HELLENIC ASSOCIATION FOR BUILDING AND THE ENVIRONMENT (HABE) in association with the FEDERATION OF EUROPEAN HEATING AND AIR-CONDITIONING ASSOCIATIONS (REHVA).

Furthermore, the workshop is a chance to honour Professor Michael Papadopoulos, on the occasion of his retirement, 25 years after becoming the first Building Physics Professor in Greece.

In this framework, the key questions would appear to be:

6. What is the expected influence of the new European Norm in the construction branch?
7. To what extent are changes in the urban environment influencing the energy behaviour of buildings?
8. What are the trends in HVAC systems, in face of the rapidly increasing cooling demands?
9. What is the potential and where lie the challenges for new building and particularly insulation materials?

Speakers include, amongst else, Prof. Dusan Petras (University of Bratislava, President of REHVA), David Hubert (Chairman of EURIMA) and Prof. Joe Clarke (University of Dublin)

Mat Santamouris
Department of Physics
University of Athens

Agis Papadopoulos
Lab of Heat Transfer and
Environmental Engineering
Aristotle University of Thessaloniki

For Information and registration contact:

University of Athens, Mrs Marianna Santamouri, tel +30-210-7276847

e-mail: msant@cc.uoa.gr Aristotle University Thessaloniki, Dr Agis Papadopoulos, tel. +30-2310-996011, e-mail: agis@eng.auth.gr

