

CONFERENCE PROGRAMME



Ninth International Conference on

Water Pollution



2008

Modelling, Monitoring and Management of Water Pollution

NOTES TO CHAIRMEN AND PRESENTERS

- *Chairman must be in their respective rooms 10 minutes before the start of their session to meet with the presenting authors.*
- *Authors must meet with the Chairman of their session 10 minutes before the start of the session.*
- *Authors must keep strictly to the time allocated for their presentation to ensure the smooth running of the programme.*
- *This programme is subject to last-minute alterations, please refer to the conference noticeboard for the most up-to-date information.*

9-11 June, 2008

University of Alicante, Spain

*Organised by:
Wessex Institute of Technology, UK
University of Alicante, Spain*

*Sponsored by:
The Institute for Water and Environmental Sciences (IWES), UA
WIT Transactions on Ecology and the Environment
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Patronato Municipal de Turismo de Alicante
Grupo de Investigacion Modelizacion Matematica de Sistemas,UA,
Spain*

Ninth International Conference on

Water Pollution 2008

**Modelling, Monitoring and Management of Water
Pollution**

Honorary Committee

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Marino de España.
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J M Andreu, D M Bonotto, F Cioffi, R Font,
F Jaenig, F Muttin, B Ovez,
S Rahman Kutty, K Rowberg, H Rye, M Sevilla
A Trapote, G Zappala

CONFERENCE PROGRAMME



Ninth International Conference on Water Pollution 2008 Alicante, Spain



Monday, 09 June 2008

09.00 Opening Addresses: **Prof C.A. Brebbia** , Wessex Institute of Technology, UK
Dr. Y. Villacampa, University of Alicante, Spain

Page number in the Book

Session 1: Coastal Areas, Lakes and Rivers (I)

Chairman: **C. Brebbia**

- | | | |
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| 09.20 | Planning an integral drainage system for a coastal area
<i>A. Trapote & D. Pulido</i> | 3 |
| 09.40 | Preliminary analysis of water pollution in a small lake in
Western Mexico
<i>T. Greenberg, H. Shear, J. de Anda Sanchez & M.-A. Ortiz-Jiménez</i> | 13 |
| 10.00 | Pattern recognition of grazing dynamics in response to fish removal
(Lake Wolderwijd, Netherlands) using non-supervised artificial neural
networks
<i>A. Talib, Y. Abu Hasan, F. Recknagel & D. T. van der Molen</i> | 23 |
| 10.20 | Stream rehabilitation – impact on water quality and long-term
effectiveness in an urban environment
<i>S. Riley, S. Shrestha & M. Riley</i> | 33 |

REFRESHMENT BREAK

11.00 **Official opening by the Honorary Committee**
Award of the Hromadka Prize

Session 2: Coastal Areas, Lakes and Rivers (II)

Chairman: **C. Brebbia**

- | | | |
|-------|---|----|
| 11.30 | Levels of trace metals in water and sediment from the Tecate-Tijuana River
<i>J. G. Rodríguez-Ventura, F. Sierra-Cruz, F. T. Wakida,
E. Vélez-López, E. Rogel-Hernández & J. H. Espinoza-Gómez</i> | 43 |
| 11.50 | Dynamic nutrient modelling of a large river basin in Finland
<i>Á. Bilaletdin, H. Kaipainen & T. Frisk</i> | 53 |
| 12.10 | A model of water quality in a coal mine in the Western Blue Mountains of
NSW, Australia
<i>S. Riley, C. McQuade & D. Cohen</i> | 63 |

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Monday, 9 June 2008

Session 3: Groundwater and Aquifer Issues (I)

Chairman: S. Kutty

- 15.00 Overexploitation and water quality in the Crevillente aquifer (Alicante, SE Spain)
J. M. Andreu, A. Pulido-Bosch, M. R. Llamas, C. Bru, P. Martínez-Santos, E. García-Sánchez & L. Villacampa 75
- 15.20 Determination of the spreading-velocity of nitroaromatic compounds in aquifers represented on the basis of column tests under in situ conditions
F. Jaenig 85
- 15.40 Role of high mountain areas in catchment hydromineral resources – Northern/Central Portugal: *environmental issues*
J. M. Marques, P. M. Carreira, J. Espinha Marques, H. I. Chaminé, P. E. Fonseca, F. A. Monteiro Santos, E. Almeida, R. Gonçalves, P. G. Almeida, A. Gomes, J. Teixeira, J. M. Carvalho & F. T. Rocha 95
- 16.00 Organic pollutants in groundwater: remediation by nanoscale iron particles
M. G. O. Souza, F. T. Silva & J. F. Oliveira 105
- 16.20 Experimental research and mathematical modelling of soil and groundwater contamination with nitrogen compounds
A. M. Marinov & M. A. Diminescu 115

REFRESHMENT BREAK

Session 4: Groundwater and Aquifer Issues (II)

Chairman: J. M. Andreu

- 17.10 Groundwater contaminations – the use of LC-NMR and LC-MS to characterize the scope of polar contaminants
A. Preiss, M. Elend, S. Gerling, E. Berger-Preiss, A.-K. Reineke & J. Hollender 127
- 17.30 Characterization of groundwater resources degradation at Santiago Island (Cabo Verde) ascribed to isotopic and geochemical signatures
P. M. Carreira, J. M. Marques, A. Pina, A. Mota Gomes, D. Nunes & F. Monteiro Santos 139
- 17.50 A comparative study of two groundwater treatment pilot plants
C. Podaru, C. Danielescu, D. Sonea, A. Pacala, I. Vlaicu, C. Cosma, G. Burtica, F. Manea & C. Orha 149
- 18.10 Adsorption and desorption characteristics of fluoride in the calcareous and siliceous sand sheet aquifers of south-west Victoria, Australia
S. A. Salzman, G. Allinson, F. Stagnitti, R. J. Hill, L. Thwaites, D. Ierodiaconou, R. Carr, J. Sherwood & V. Versace 159
- 18.30 Assessments of infiltration rate and effects on water quality of selected infiltration media for use in storm water run off in Karachi, Pakistan
A. Zubair & M. A. Farooq 175

END OF DAY 1

Tuesday, 10 June 2008

Session 5a: Wastewater Treatment (I)

Chairman: M. Sevilla

- 09.00 **Invited**
Thermal degradation of organic pollutants in
sewage sludge
R. Font, M. F. Gomez-Rico & A. Fullana 405
- 09.20 Volatile organic compounds released from thermal
drying of sewage sludge
M. F. Gomez-Rico, A. Fullana & R. Font 425
- 09.40 The degradation of phenol derivatives from
wastewaters by electrochemical treatment
*A. Bebeselea, F. Manea, C. Radovan, G. Burtica,
C. Teodosiu, A. Pop, C. Proca & I. Corb* 435
- 10.00 Dissolved organic carbon removal by biological
treatment
C. Pipe-Martin 445
- 10.20 Biological ammonia removal from drinking water
in fluidized bed reactor
M. Aboabboud, H. Ibrahim & A. Awad 453

REFRESHMENT BREAK

Tuesday, 10 June 2008

Session 5b: Environmental Monitoring and Sensing (I)

Chairman: D. Bonotto

- 09.00 **Invited**
Development of a sliding device for extended
measurements in coastal waters
G. Zappalà, M. Marcelli & V. Piermattei 187
- 09.20 "A State of the Art" environmental monitoring and
sensing network for the Nile River in Egypt
S. Abdel-Gawad, H. Khan & A. A. Khan 197
- 09.40 An automation system based on LabVIEW to control
the test of mechanical flow meters
*J. Martínez, R. Alvarez, P. Cortez, V. Mejía &
V. H. Zarate* 207
- 10.00 Monitoring of pulp mill effluents in the coastal
waters of North Estonia
*Ü. Suursaar, R. Aps, G. Martin, A. Põllumäe &
K. Kaljurand* 217
- 10.20 Distribution of chlorides and sulfates in the aeration
zone of coal waste landfill – sulfides decomposition
kinetics and ground water acidification
M. Gwozdziwicz 227

REFRESHMENT BREAK

Tuesday, 10 June 2008

Session 6a: Wastewater Treatment (II)

Chairman: R. Font

- 11.10 **Invited**
Problems in the economic management of the water treatment process in Spain
M. Sevilla & T. Torregrosa 415
- 11.30 Uranium recovery and manganese removal from acid mine drainage
A. C. Q. Ladeira & C. R. Gonçalves 465
- 11.50 Removal of mercury(II) from wastewater using poly(vinyl pyrrolidinone)
A. Etorki & M. Walli 475
- 12.10 Effect of physical and chemical parameters on water treatment plant effluent quality (particle count and particle size)
A. Torabian, A. Hesam Hasani & A. R. Mehrabadi 483
- 12.30 Study of the extracellular polymeric substances (EPS) in different types of membrane bioreactor (MBR) effluents
L. D. Chabalina, M. Rodríguez & D. Prats 491

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Tuesday, 10 June 2008

Session 6b: Environmental Monitoring and Sensing (II)

Chairman: G. Zappala

- 11.10 Screening of priority pollutants in urban stormwater: innovative methodology
S. Zgheib, R. Moilleron & G. Chebbo 235
- 11.30 **Invited**
Hydrochemical evaluation of the quality of some Brazilian waters
D. M. Bonotto, L. Caprioglio, H. K. Itoman, M. Santilli & B. W. Tessari 281
- 11.50 Degradation of chlorinated butenes and butadienes by granular iron
R. E. Hughes, R. W. Gillham & L. Gui 295
- 12.10 Characteristics of flow rate, head loss and basket pressure drop relationship in a Rocla Versa Trap (VT) stormwater pollutant trap (SPT) in a 3-D laboratory scale model
H. K. Saberi & H. Nikraz 305
- 12.30 Assessment of in Situ Bioegradation potential of benzene, MTBE, and TBA using stable isotope probing and bio-sep beads
J.L. Busch-Harris & K.L. Sublette Oral

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Tuesday, 10 June 2008

Session 7a: Wastewater Treatment (III)

Chairman: A Trapote

- 15.00 The influence of dissolved oxygen on growth and degradation of Cypermethrin by Pseudomonas using a biosimulator
S. Jilani 501
- 15.20 Disinfection efficiency of secondary effluents with ultraviolet light in a Mediterranean area
J. Bayo, J. M. Angosto & P. Ayala 511
- 15.40 Design of horizontal and vertical subsurface flow constructed wetlands treating industrial wastewater
J. Mena, L. Rodriguez, J. Nuñez, F. J. Fernández & J. Villaseñor 555
- 16.00 Humic acid sorption properties of calcium-rich derivatives of Neapolitan Yellow Tuff
E. Coppola, P. Iovino, S. Salvestrini, S. Capasso & C. Colella 565
- 16.20 Evaluation of Posidonia oceanica and organic sediment as biosorbents: Cu removal in fixed bed columns
F. J. Álvarez-Hornos, C. Gabaldón, M. Izquierdo & P. Marzal 575

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Tuesday, 10 June 2008

Session 7b: Mathematical Modelling

Chairman: F. Jaenig

- 15.00 **Invited**
Modeling environmental impact on sediment caused by discharges deposited on the sea floor
H. Rye 319
- 15.20 **Invited**
Theoretical evaluation of substituted polycyclic aromatic hydrocarbons as emerging pollutant *phototoxins*
K. Rowberg, N. Nataraj, W. Saroian & L. Kang 329
- 15.40 Application of dynamic parametric sensitivity analysis for identifying contaminant sources in a watershed
H. Manolopoulos, B. E. Halbert, C. R. Paton & J. M. Scharer 339
- 16.00 Washoff model of total suspended particles in urban areas
E. Crobeddu, S. Allali & S. Bennis 351
- 16.20 Agrochemical modeling in rivers: the Sampaio irrigation project case study
G. C. Nascimento & A. M. Pereira Andreatza 361

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Tuesday, 10 June 2008

Session 8a: Waterwater (V)

Chairman: H. Rye

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| 17.10 | Effect of the start-up length on the biological nutrient removal process
<i>F. J. Fernández, J. Villaseñor & L. Rodríguez</i> | 521 |
| 17.30 | Volatile fatty acids production from winery wastewaters by acidogenic fermentation
<i>F. J. Fernández, D. Infantes, I. Buendía & J. Villaseñor</i> | 529 |
| 17.50 | Field applications of cyclodextrin-aided sludge dewatering
<i>S. Banerjee & S. Wright</i> | 537 |
| 18.10 | Treatment of slaughterhouse wastewater with iron electrodes
<i>Ü. Tezcan Ün, A. S. Koparal & Ü. Bakir Ödütveren</i> | 545 |

END OF DAY 2

CONFERENCE DINNER T.B.A

Wednesday, 11 May 2008

Session 9: Remediation

Chairman: K. Rowberg

- 09.00 **Invited**
Adsorption of zinc, cadmium and nickel from aqueous solutions using ground water sludge (GWS)
A. R. Jaafar, M. H. Isa & S. R. M. Kutty 247
- 09.20 Remediation and by-products of MTBE in groundwater by a photochemical process
S. Mohebbi, S. Tasharrofi & R. Kaveh Ahangar 255
- 09.40 Biodegradation of pharmaceuticals by common microorganisms
H. Gauthier, D. G. Cooper & V. Yargeau 263
- 10.00 The recalcitrance of clofibric acid to microbial degradation
S. Evangelista, V. Yargeau & D. G. Cooper 273
- 10.20 Pollution prevention in food industries through both cleaning of closed equipment with ozonated water and cleaning in place (CIP) systems
A. Canut & A. Pascual 615
- 10.40 Farmstead drinking water sources, concerns and safety practices of livestock farm families in southern Alberta, Canada
M. Acharya, R. G. Kalischuk, K. K. Klein & H. Bjornlund 627

REFRESHMENT BREAK

Session 10: Agricultural Contamination

Chairman: C. Brebbia

- 11.30 Effect of recycled water on the soil physical-chemical properties of four vineyards in Great Western, Victoria, Australia
K. Hermon, G. Allinson, P. Maher, F. Stagnitti & R. Armstrong 587
- 11.50 Hydrosalinity fluxes in a small scale catchment of the Berg river (South Africa)
N. Z. Jovanovic, R. D. H. Bagan, G. Frantz, W. de Clercq & M. Fey 603

**Conference Banquet in the Santa Barbara Castle.
Please refer to Joining instructions**

CLOSE OF WATER POLLUTION 2008

We hope you have enjoyed the conference and look forward to seeing you at the next meeting in the series, have a safe and pleasant journey home.