

VENICE 2012

Fourth International Symposium on Energy from Biomass and Waste *Quarto Simposio Internazionale su Energia da Biomasse e Rifiuti*

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San Servolo, Venice, Italy

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IWWG - International Waste Working Group

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AIAT - Italian Association of Environmental and Territory Engineers (IT)

ENEP - European Network of Environmental Professionals (EU)

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IWMSA - Institute of Waste Management of Southern Africa (ZA)

GITISA - Italian Group of Sanitary Environmental Engineering (IT)

WMAA - Waste Management Association of Australia (AU)

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PRESENTATION

The production of energy from alternative sources and its impact on climate change are among the main strategic tools implicated in the sustainable development of our society. Numerous types of biomass and wastes contribute towards the production of energy and reduction in the use of fossil fuels by means of biological, chemical and thermal processes. Existing biomass and waste to energy technologies are currently undergoing rapid development. Despite growing interest in the use of these technologies, in many countries their implementation remains limited.

Advances in the application of technologies for energy recovery from biomass and waste will represent central debate topics of the fourth edition of the Venice Symposia. The following sub-topics will also be discussed: combustion, anaerobic digestion, biomass to energy, alternative thermal treatments, strategies and policies, other waste-to-energy options. Particular attention will be paid to the characteristics of combustible products generable from different approaches: SRF, biochar, biodiesel and other products suitable for a decentralized exploitation of the energy content of waste and biomass.

PRESENTAZIONE

La produzione di energia da fonti alternative ed il suo impatto sui cambiamenti climatici sono tra i principali strumenti strategici implicati nello sviluppo sostenibile della nostra società. Numerose tipologie di biomasse e rifiuti contribuiscono, a seguito di processi biologici, chimici e termici, alla produzione di energia e alla riduzione dell'utilizzo di combustibili fossili. Le tecnologie esistenti per la generazione di energia da biomasse e rifiuti sono oggi in rapido sviluppo ma nonostante l'interesse crescente nell'utilizzo di tali tecnologie, in molti paesi la loro implementazione è ancora limitata.

Il tema centrale della quarta edizione del Simposio saranno le innovazioni introdotte nell'applicazione delle tecnologie per il recupero di energia da biomasse e rifiuti. Verranno dettagliatamente discussi i seguenti argomenti: combustione, digestione anaerobica, energia da biomassa, trattamenti termici alternativi, legislazione e strategie politiche, energia da rifiuti. Particolare attenzione sarà inoltre posta sulle caratteristiche dei prodotti combustibili generabili da diversi processi quali SRF, biochar, biodiesel e tutti gli altri prodotti che permettono un utilizzo decentralizzato del contenuto energetico di biomassa e rifiuti.

THE SYMPOSIUM STRUCTURE

The Symposium is structured in oral sessions, a poster session, an exhibition by companies and institutions working in the field, and technical tours. Oral presentations are organized in six parallel tracks, for a total of 62 sessions during which over 250 presentations will be delivered.

Poster papers will be presented in an appropriate session, which will always be accessible to Symposium delegates, and discussed on Monday, Tuesday and Wednesday morning.

Papers were selected according to quality by the Symposium Executive Programme Committee and an International Committee from over 570 offers of papers from 70 different countries.

All papers are presented in English; in addition, eight sessions held entirely in Italian will contribute to the dissemination of key contents at a national level.

STRUTTURA DEL SIMPOSIO

Il Simposio è organizzato in sessioni orali, una sessione poster, un'esposizione commerciale dedicata a ditte ed enti che operano nel settore, e visite tecniche. Le presentazioni orali sono organizzate in sei sessioni parallele durante le quali verranno discussi più di 250 lavori.

Le presentazioni poster saranno invece esposti in una sessione appropriata sempre accessibile ai partecipanti del Simposio e saranno discussi nelle mattine di lunedì, martedì e mercoledì.

I lavori selezionati sono stati scelti in base alla loro qualità scientifica dalla Commissione Esecutiva di Programma e da una Commissione Internazionale fra oltre 570 abstracts arrivati da 70 diversi paesi.

Tutti i lavori saranno presentati in inglese, ad eccezione di quelli inseriti nelle sessioni in lingua italiana.



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DAILY PROGRAMME

8:00 - 13:00 Conference Registration
Registrazione al Simposio

SESSION A1 - Auditorium

Opening Session / *Sessione di Apertura*

Chairman / *Presidente*: R. Cossu (IT)

9:00 - 9:30 Welcome addresses
Saluti di benvenuto

9:30 - 10:40 Introductory presentations
Relazioni introduttive

Innovative issues and geographical trends in Waste to Energy

R. Cossu (IT)

Role of source segregation and Urban Mining in Waste to Energy strategies

R. Stegmann (DE)

Decentralised system for Waste to Energy solutions

W.P. Clarke (AU)

Biological Waste to Energy - State of the art

M. Nelles (DE)

Thermal Waste to Energy - State of the art

T. Matsuo (JP)

Waste to Energy in Japan

L.F. Díaz (US)

Waste to Energy in developing countries

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION A2 - Auditorium

h. 11:40 - 13:10

AD of Municipal Solid Waste

Chairman / *Presidente*: M.C. Zanetti (IT)

E. Román, M.Y. Mustafa, W. Sargalski (NO)

Biogas from organic waste - Experiences from a new plant in Norway

I. Pecorini, D. Bacchi, A. Corti (IT)

Performance evaluation of a full scale anaerobic digestion plant: biochemical methane potential and biodegradability of organic municipal solid waste components

E. Iacovidou, M. Vlachopoulou, S. Mallapaty, D.G. Ohandja, J. Gronow, N. Voulvoulis (GB)

Anaerobic digestion in municipal solid waste management in the UK - Works in theory, but in practice...

M. Loizidou, D. Malamis, A. Stamatoglu, N. Solomou (GR)

Integrated system for the treatment of municipal wastewater and biodegradable solid waste

W.P. Clarke, H. Zheng, F. Klostermann (AU)

Degradation of the organic fraction of MSW in less than six months in biocells

SESSION B2 - Theatre Hall

h. 11:40 -13:10

Biomass characterization

Chairman / *Presidente*: H. van der Sloot (NL)

K. Silvennoinen, J.-M. Katajajuuri, H. Hartikainen, L. Jalkanen, H.-K. Koivupuro, A. Reinikainen (FI)

Food waste volume and composition in Finnish food supply chain

S. Fiore, C. Roati, B. Ruffino, D. Novarino, F. Marchese, M.C. Zanetti (IT)

Characterization and laboratory tests aimed to the anaerobic digestion of food-processing industrial wastes

C. Holliger, N. Bachmann, H. Fruteau de Laclos, M. Deront, Y. Membrez, A. Wellinger (CH)

Inoculum origin and adaptation had no influence on biomethane potential results with different substrates

C. Vahlberg, K. Norén, L. Wiberg (SE)

Influence of volatile fatty acids on the result on oven dry matter analysis

SESSION C2 - Room 2

h. 11:40 - 13:10

Combustion technology and maintenance

Chairman / *Presidente*: M. Kranert (DE)

M. Markovic, G. Brem, E.A. Bramer (NL)

Reversed combustion of waste in a grate furnace - An experimental study

H. Liu, Y. Jin, X. Ma, J. Yan (CN)

Experimental research on fluidization characteristics of fluidized bed with pipe distributor

T. Norman, P. Andersen, O. Hedegaard Madsen (DK)

Development of an improved secondary air system using CFD

J. Reichelt, G. Pfrang-Stotz, B. Bergfeldt, H. Seifert, P. Knapp (DE)

Differences in the formation of deposits on heat exchanger surfaces in different heat and power plants

M.J. Castaldi (US)

CFD analysis of NO_x formation in waste-to-energy systems using detailed kinetic modeling

M. Keunecke, R. Frey, P. Beder (CH)

Two in one - Energy efficient and complete flue gas treatment in MSWI

SESSION D2 - Room 6

11:40 - 13:10

Workshop: SRF/RDF - Where are we heading?

Chairman / *Presidente*: M. Ragazzi (IT)

P. P. McHenry (GB)

An investigation into refuse derived fuel composition over time and its suitability for a non waste incinerator directive (WID) compliant offtaker

E.C. Rada, M. Ragazzi (IT)

Role of selective collection for Solid Recovered Fuel production with/without bio-drying

C. Romeo, M. Gori, B. Bergfeldt, R. Gori, P. Sirini (IT)

Leaching behaviour of bottom ash from biomass and SRF incineration

SESSION E2 - Room 7

h. 11:40 - 13:10

Policies & strategies

Chairman / *Presidente*: L. Lombardi (IT)

A. Pollex, T. Zeng, E. Alakangas, A. Sager, M. Rönnbäck, N. Weller, V. Lenz (DE)

Frameworks and measures to enhance utilisation of alternative and mixed biomass pellets in Europe

F. Peres (IT)

The ban of commercializing non-biodegradable takeaway bags in Italy

A. Braekevelt (BE)

The Flemish approach on biomass as a sustainable energy source

S. Storey (GB)

The UK's 'Quality Protocol' approach to recovery and upgrading of biogas from landfill and anaerobic digestion to biomethane-to-grid

A. Zentner, V. Grundmann, B. Bilitewski (DE)

Settlement development in times of spatially and temporally disparate trends - Accelerated effort for waste management

G. Tipaldo (IT)

From the Naples emergency to the waste-to-energy miracle

SESSION F2 - Room 8

h. 11:40 - 13:10

Pianificazione e gestione (I)

Chairman / *Presidente*: C. Collivignarelli (IT)

L. Bergamin (IT)

Approccio simulativo all'identificazione di nuove policies WTE nell'ambito della pianificazione energetica territoriale. Il caso Regione Veneto

P. Fioretti, A. Guercio (IT)

Le linee di indirizzo SGSL-R per l'implementazione di un sistema di gestione della salute e della sicurezza dei lavoratori: un supporto per le aziende dei servizi ambientali e territoriali verso la prevenzione globale

M. Alberti, G. Tomasoni, M. Collotta, A. Marini, F. Cavalli (IT)

Valutazione comparativa del ciclo di vita (LCA) di tre tecnologie per la digestione anaerobica di deiezioni animali per impianti di piccola taglia

M.L. Mastellone, E. Romeo (IT)

Analisi dei dati di raccolta e gestione dei rifiuti urbani in un'area in uscita dall'emergenza rifiuti

SESSION A3 - Auditorium

h. 14:30 - 16:10

AD Crops and vegetative waste

Chairman / *Presidente*: A. Polettini (IT)

J.M. Triolo, L. Pedersen, H. Qu, S.G. Sommer (DK)

Potential of plant waste for biomethane production: characteristic biomethane production potential and anaerobic digestibility

M. Grigatti, L. Barbanti, G. Di Girolamo, L. Cavani, L. Bertin, C. Ciavatta (IT)

Anaerobic digestion of alternative energy crops

A.C. Trentin, D. Peresin, T.A. Bortolin, V.E. Schneider (BR)

Estimate of the potential of biomass and energy generation by major agricultural crops of Brazil

S. Oldenburg, M.A. Kücüker, L. Westphal, K. Kuchta (DE)

Anaerobic digestion of grass biomass

M.W. Milke, M.A. Barlaz (NZ)

Anaerobic biodegradability of wood and wood products: reassessment and new insights

16:10 - 16:40 Coffee break

SESSION A4 - Auditorium

h. 16:40 - 18:20

AD Co-digestion

Chairman / *Presidente*: R. Stegmann (DE)

K. Hjort-Gregersen (DK)

Increase and regulation of biogas production by the application of concentrated animal waste and other concentrated biomass waste fractions

E. Trulli, V. Torretta, C. Morosini (IT)

Critical issues in planning of centralized plant for anaerobic co-digestion of municipal and biodegradable waste

A. Paraboschi, I. Frenzel, E. Ferchau, D. Trimis (IT)

Anaerobic digestion treatment of food waste ground by means of a food waste disposer and intercepted by a filtering tank

P. Bozano Gandolfi, V. Nosiglia, G. Vitali (IT)

Co-digestion of biowaste and commercial waste with agricultural residues - Experiences from Castelleone (Italy)

P. C. Benito, N.N. Sibisi-Beierlein, M. Greger (LU)

Optimisation of the co-digestion of maize and grass silage: influence of the substrate mixture on the biogas yield

SESSION B3 - Theatre Hall

h. 14:30 - 16:10

Biomass inventory

Chairman / *Presidente*: W.P. Clarke (AU)

J. den Boer, E. den Boer, R. Szpadt, A. Łukaszewska, E. Thorin (PL)

Energy potential from residues in Northern Central European regions

H. Adwiraah, S. Oldenburg, R. Stegmann (DE)

GIS-based bioresources inventory

A.M. Lizzul, P. Hellier, S. Purton, F. Baganz, L.C. Campos (GB)

Integrated production of algal biomass

R. Kikuchi, J. Kukačka, T. Yamamoto (JP)

Approach to crude oil sludge treatment on the basis of its characterization: preliminary evaluation of waste-to-energy technologies

F. Viggiano, D. Panepinto, G. Genon (IT)

The potential of biomass supply for energetic utilisation in a small region: Basilicata

P.L. Côrtes, S.L.A. Moretti, M.S. Ruiz, A.O. Aguiar (BR)

The Brazilian scientific production about the energy generation from biomass: a bibliometric analysis

16:10 - 16:40 Coffee break

SESSION B4 - Theatre Hall

h. 16:40 - 18:20

Bioethanol production

Chairman / *Presidente*: K.E. Lörber (AT)

C. Dornack, V. Schoenberg, C. Muench (DE)

Digestion of slop from a creamery's bioethanol plant

G. Rice (GB)

Commercial scale cellulosic ethanol production from biomass and waste

A. Grélot, R.K. Dereli, B. Heffernan, F.P. van der Zee, J. Pereboom (NL)

Anaerobic membrane bioreactor for upgrading the energy balance of bioethanol plants

F. Zeman (CA)

Methanol production from aerobic composting using produced oxygen

C. Reyes, E. Rustrian, C. Barrera-Bernal, E. Houbron (MX)

Cheese whey fermentation for ethanol production by different *Kluyveromyces* and *Saccharomyces* yeasts

SESSION C3 - Room 2

h. 14:30 - 16:10

Combustion residues: Quality & treatment

Chairman / *Presidente*: M. Vaccari (IT)

H. Bjurström, B. Lind, A. Lagerkvist (SE)

Nature of unburned carbon in ashes

N. Margaritis, G. Itskos, P. Grammelis (GR)

Characterization of olive kernel residues from a downdraft biomass gasifier

E. Allegrini, A. Boldrin, T. Astrup (DK)

MSWI boiler ashes: production and quality through the horizontal section of a boiler

G. Meylan, A. Spoerri (CH)

Economic and environmental benefits of dry discharge of bottom ash and acid washing of fly ash from municipal solid waste incineration in Switzerland

T.P. Johnson, D.E. Deegan (GB)

Treatment of EfW air pollution control residues using Tetronics' DC Plasma Arc Technology

A. Sarkar, P. Rano (IN)

Characterisation of high carbon ash from stoker fired combustor for potential use as fuel for domestic purpose

16:10 - 16:40 Coffee break

SESSION C4 - Room 2

h. 16:40 - 18:20

Combustion residues: Utilisation

Chairman / *Presidente*: M.A. Barlaz (US)

L. Lombardi, E. Carnevale, P. Mostbauer, T. Olivieri, A. Paradisi (IT)

Results from pilot-scale tests of an innovative process for biogas upgrading using bottom ash

R. Onori, A. Polettini, R. Pomi, A. Boccaccini (IT)

Structural materials from incinerator bottom ash: mechanical and leaching behaviour

S. Heinrichs, B. Wens, A. Feil, T. Pretz (DE)

Recovery of nf-metals from bottom ash's fine fraction - State-of-the- art in Germany

S.K. Tyni, J.A. Karppinen, M.S. Tiainen, R.S. Laitinen (FI)

Fly and bottom ash from FB combustion of peat as precursors to geopolymers

R. Barbosa, N. Lapa, A. Morujo, B. Mendes (PT)

Biomass ashes: are they suitable to remove phosphorous from wastewaters?

SESSION D3 - Room 6

h. 14:30 - 16:10

Evaluation of Waste-to-Energy

Chairman / Presidente: M. Nelles (DE)

L.F. Diaz, G.M. Savage (US)

Overview of emerging approaches to recover energy from fractions of MSW

U. Arena, F. Di Gregorio (IT)

A comparison between combustion and gasification-based waste-to-energy system

J. Werther (DE)

Waste to energy - Experiences with sewage sludge in Germany

D. Panepinto, G. Genon, A. Senor (IT)

Evaluation of different kind of energy recovery from MSW incineration: a case study

C. Laboure, C. Peregrina, J-M. Audic (FR)

Case study - Heat recovery from a sludge furnace

16:10 - 16:40 Coffee break

SESSION D4 - Room 6

h. 16:40 - 18:20

Thermal treatment of specific waste

Chairman / Presidente: E. Ranieri (IT)

W. Campbell, K. Woytiuk, R.W. Evitts, A. Phoenix, R. Gerspacher (CA)

Effect of temperature and time on torrefaction of Canadian prairie wheat straw

J-H. Hwang, H. Aoyama, T. Matsuto, T. Matsuo (JP)

Current problem of scallop waste recycling and feasibility of hydrothermal treatment for recovery of liquid fertilizer from scallop wastes

G.C. Faussonne (IT)

Direct conversion of plastic waste into liquid fuel

G. Balan, H. Spliethoff (DE)

Investigation of disused rotor blade materials originating from wind turbines in terms of thermal waste treatment

M. Stepanović, S. Ivanović, D. Stanković, P. Jovanić (RS)

Pharmaceutical waste final solution - Fixed or mobile incinerators case study Serbia

S. Caillat, P. Molcan, E. Perdrix, L.Y. Alleman, M. Campargue, V. Naudy, C. Lambre, H. Dacquin, F. Douard, L. Badji (FR)

Small-scale combustion experiments of selected agricultural by-products potential for biomass pellets production in France

SESSION E3 - Room 7

h. 14:30 - 16:10

Waste characterization

Chairman / *Presidente*: L.F. Díaz (US)

N. Bauerschlag, S. Kaufeld, A. Garth, A. Feil, T. Pretz (DE)

Case study on the potential of wood-chip recovery from separately collected greenwaste in a specific catchment area in Germany

M. Horttanainen, N. Teirasvuo, V. Kapustina, M. Hupponen, M. Luoranen (FI)

The composition, heating value and renewable share of the energy content of mixed municipal solid waste in Finland

S.T. Wagland, P. Longhurst (GB)

Monitoring of renewable energy yield of mixed wastes by image analysis of input residual waste materials

M.A.M. Costa, J.A. Carvalho Jr., T.G. Soares Neto, E. Anselmo, J.C. Santos, B.A. Lima (BR)

Measurements of particulate matter smaller than 2.5 µm emitted from two burnings of the Amazon forest

E.C. Rada, G. Ionescu, G. Bertolotti, S. Gialanella, M. Ragazzi (IT)

Scanning electron microscopy study of light packaging waste from different countries

16:10 - 16:40 Coffee break

SESSION E4 - Room 7

h. 16:40 - 18:20

Economic aspects

Chairman / *Presidente*: F. Peres (IT)

M. Martin, A. Parsapour (SE)

Upcycling wastes with biogas production: an economic and exergy analysis

M. Dubois (BE)

Towards a coherent European strategy for taxation of combustible waste

B. Heffernan, R.K. Dereli, J.G.M. van der Lubbe, A. Grélot, F.P. van der Zee (NL)

Economic and carbon footprint evaluation of thin stillage treatment in an AnMBR

A. Näyhä (FI)

Drivers for the forest biorefinery business in Scandinavia and North America

L. Lombardi, E. Carnevale, A. Corti, T. Olivieri, L. Zanchi (IT)

Economic assessment of innovative processes for biomethane production

SESSION F3 - Room 8

h. 14:30 - 16:10

Pianificazione e gestione (II)

Chairman / *Presidente*: E. Ranieri (IT)

F. Peres (IT)

Il divieto di commercializzare in Italia sacchi non biodegradabili per l'asporto delle merci

E.C. Rada, M. Ragazzi (IT)

Ruolo della raccolta differenziata nella produzione di Combustibile Solido Secondario con e senza bioessicazione

J. Møller, M. Grosso, L. Rigamonti, V. Martinez Sanchez, J. Cavreul, K.L. Barahona Ramirez, S. Magani, T. H. Christensen (IT)

SEWAS (Sustainable European Waste Systems)- Analisi del ciclo di vita di possibili schemi futuri di gestione integrata

U. Arena, F. Di Gregorio (IT)

Un confronto tra termovalizzazione di rifiuti urbani per combustione e per gassificazione

L. Rigamonti, A. Falbo, M. Grosso (IT)

Ottimizzazione di un sistema di gestione integrata dei rifiuti a livello regionale: risultati del progetto "GERLA"

D. Borello, A. Calabrisio, A. Marchegiani, F. Rispoli (IT)

Validazione di una procedura innovativa di *reforming* del biogas derivato da frazione solida dei rifiuti solidi urbani

16:10 - 16:40 Coffee break

SESSION F4 - Room 8

h. 16:40 - 18:20

Digestione anaerobica (I)

Chairman / *Presidente*: P. Sirini (IT)

A. Cesaro, S. Velten, V. Belgiorno, K. Kuchta (IT)

Trattamento ad ultrasuoni delle biomasse destinate a digestione anaerobica

S. Fiore, C. Roati, B. Ruffino, D. Novarino, F. Marchese, M.C. Zanetti (IT)

Caratterizzazione e test di laboratorio di digestione anaerobica di scarti dell'industria alimentare

D. Mainero, P. Zitella, F. Sagnelli, B. La Licata (IT)

Dai rifiuti organici al biometano

D. Novarino, B. Ruffino, G. Genon, M.C. Zanetti (IT)

Lisi meccanica e termica di fanghi di supero per l'ottimizzazione della digestione anaerobica

D. Spera, E. Heute, G. Montague, D. Weichgrebe, J. Rochard (IT)

Progetto "AD-WINE": digestori anaerobici ad elevata performance per il trattamento di reflui di cantine di medie dimensioni

A. Fabbri, S. Serranti, G. Bonifazi (IT)

Investigazione riguardo al potenziale metanigeno degli scarti dell'industria vitivinicola

SESSION A5 - Auditorium

h. 9:00 - 10:40

AD Pretreatment (I)

Chairman / *Presidente*: G. Andreottola (IT)

B. Nilsson, S. Liuksia, G. Hagstam, H. Olsson (SE)
Improved digester performance for biogas generation

R.G. Gregory, F. Coulon (GB)
Design and validation of an anaerobic digestion process design model, AD-Sim

E. Nordell, A. Hansson, M. Karlsson (SE)
Zeolites relieves inhibitory stress from high concentrations of long chain fatty acids

D. Andrade, F. Ebertseder, B. Munk, A. Gronauer, M. Bischoff, H. Heuwinkel (DE)
Quantification of the effect of two mineral biogas additives on the anaerobic fermentation of energy crops

B. Fröschle, B. Munk, A. Gronauer, M. Leubhn (DE)
Inactivation of *Salmonella* in biogas processes - Determination by conventional and QPCR methods

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION A6 - Auditorium

h. 11:40 - 13:10

AD Pretreatment (II)

Chairman / *Presidente*: E. Trulli (IT)

A. Cesaro, S. Velten, V. Belgiorno, K. Kuchta (IT)
Sonolysis as pretreatment of biomass for anaerobic digestion

S. Elagroudy, F. El-Gohary (EG)
Pretreatment of mixed sludge by microwave irradiation for enhanced anaerobic digestion

D. Novarino, B. Ruffino, G. Genon, M.C. Zanetti (IT)
Mechanical and thermal lysis of waste activated sludge for anaerobic digestion optimization

W.J. Jewell (US)
Digestion of low quality hay: impact of long-term storage and harvesting conditions on reed canary grass hay and comparisons to switchgrass

E. Jurado, G. Antonopoulou, G. Lyberatos, H.N. Gavala, I.V. Skiadas (DK)
ADM1-based modeling of anaerobic digestion of swine manure fibers pretreated with aqueous ammonia soaking

SESSION B5 - Theatre Hall

h. 9:00 - 10:40

Biodiesel from biomass

Chairman / *Presidente*: R. Raga (IT)

A. Kumari, A. Sarkar (IN)

Transesterification of some non-edible oil using sodium methoxide - An attempt towards synthesis of biofuel

A. Anschau, S. Hernalsteens, T.T. Franco (BR)

Mass and energy balances for analysis of oleaginous yeast growth

L.M. Pinotti, L.C. Benevides, G.S.B. Salomão, T.S. Lira, J.P. Oliveira, S.T.A. Cassini (BR)

Biodiesel production from oily residues containing high free fatty acids

P. Hadžić, D. Stojiljković, S. Borozan, N. Manić, V. Jovanović (SR)

Energy self-sufficiency by individual biodiesel production

O. Etziony, Y.M. Knoll, P. Berman, C. Krawczyk, L. Yarmolinsky, Z. Wiesman (IL)

From organic solid waste to biofuels: in-situ transesterification of olive mill solid waste

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION B6 - Theatre Hall

h. 11:40 - 13:10

Biogas treatment utilisation

Chairman / *Presidente*: C. Dornack (DE)

H. Oshibe, T. Takahashi, T. Matsui (JP)

Non fuel assisted-flare of tail gas from biogas upgrading process with Pressure Swing Absorption

C. Rojas Devia, A. Subrenat (FR)

H₂S treatment from biogas by adsorption onto activated carbons - Regeneration material

D. Mainero, P. Zitella, F. Sagnelli, B. La Licata (IT)

From organic waste to biomethane

D. Borello, A. Calabriso, A. Marchegiani, F. Rispoli (IT)

Assessment of innovative reforming procedures for biogas obtained from organic fraction of solid municipal waste

L. Lombardi, R. Baciocchi, E. Carnevale, G. Costa, T. Olivieri, A. Paradisi, L. Zanchi, D. Zingaretti (IT)

Results from pilot-scale tests of an innovative process for biogas upgrading with CO₂ capture and storage

SESSION C5 - Room 2

h. 9:00 - 10:40

SRF/RDF quality

Chairman / *Presidente*: E. Gidarakos (GR)

K.E. Lorber, R. Sarc (AT)

Production, quality and quality assurance of refuse-derived fuels (RDF)

E. Miller, J. Maier, G. Scheffknecht, T. Glorius, J. Gehrman, P. Novak, H. Seifert (DE)

Investigations on minimizing chlorine corrosion of super heater materials using the sulfation effect under pure SRF combustion in a pilot grate firing

B. Krueger, A. Mrotzek, T. Marzi, S. Wirtz (DE)

Separation of RDF in a fluidized bed - Simulation of RDF-particle properties and flow conditions

B. Polanec, J. Ekart, F. Kokalj, N. Samec (SI)

Laboratory analyses of different solid recovered fuel material properties and combustion air emissions

O. Gaillot, U. Fitzgerald, J. Moriarty, R. Campbell (IE)

Biodegradable content of municipal waste derived fuel produced in Ireland

10.40 - 11.10 Coffee break

11.10 - 11.40 Poster discussion

SESSION C6 - Room 2

h. 11:40 - 13:10

Thermal behaviour of residual biomass

Chairman / *Presidente*: A. Lagerkvist (SE)

N. Said, T. Bishara, A. García-Maraver, M. Zamorano (ES)

Thermal behaviour of rice straw

A. García-Maraver, M. Zamorano, A. Ramos-Ridao, L.F. Díaz (ES)

Influence of cellulose, hemicellulose and lignin content on the thermal behaviour of residual biomass from olive trees

F. Miccio, G. Ruoppolo, M. Urciolo (IT)

Valorization of a difficult biogenic residue (olive husks) as energy source in fluidized bed

R. Ramos, A. Babillo, M. Fernandez, D. Sanz, R. Escalada, E. Borjabad, M.L. Contreras, F.J. Garcia (ES)

Co-combustion of residual biomass and RDF from municipal waste in fluidized bed

SESSION D5 - Room 6

h. 9:00 - 10:40

Air pollution control

Chairman / Presidente: G. Genon (IT)

T. Schröder, V. Lenz, S. Mühlhopt, H.-R. Paur, S. Gauggel, B. van den Burg, D.R. Dietrich (DE)
New methods for evaluating modern domestic small scale biomass furnaces by considering the toxicity of their particulate matter emissions

L. Lu, Y.Q. Jin, X.J. Ma, H.M. Liu, K. Yoshikawa (JP)
Nitrogen evolution during the co-combustion of hydrothermally treated municipal solid wastes and coal

K. Villani, J. De Greef, J. Goethals, I. Montauban, H. van Langenhove (BE)
Exploring the performance limits of non-catalytic de-NO_x in waste-to-energy plants

S. Andersson, P. Lindgren (SE)
Increased energy recovery and emission reduction by MSWI flue gas condensation

X. Ma, X. Jiang, Y. Jin, H. Liu, Y. Chi, J. Yan (CN)
Hydrothermal degradation of OCDD and OCDF by Fe₃+H₂O₂ mixed reagent under non-oxidative and oxidative conditions

T. Florea, B. Taupin, S. Caillat, D. Souchon, E. Kervella, F. Nicol (FR)
In furnace gas-sampling for analysis applied to a biomass grate fired boiler

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION D6 - Room 6

h. 11:40 - 13:10

Biofuels from lignocellulosic biomass

Chairman / Presidente: R. Stegmann (DE)

A. Adrados, I. De Marco, A. Lopez-Urionabarrenecha, J.F. Cambra, J. Requies (ES)
Influence of operational parameters on the vapours obtained in the production of biochar by pyrolysis of biomass

D. Pirozzi, A. Ausiello, A. Yousuf (IT)
Exploitation of lignocellulosic materials for the production of II generation biodiesel

M. Grilc, B. Likozar, J. Levec (SI)
Catalytic hydro-treatment of liquefied wood or biomass waste: optimization of process parameters

T. Marzi, T. Schulzke, K. Girod, C.A. Unger, S. Kaluza, T. Jänisch (DE)
New catalysts for energy carriers from biomass-based synthesis gas

K. Zaafouri, L.A. Fdez.-Güelfo, C. Álvarez-Gallego, M. Hamdi, L.I. Romero (TN)
Thermochemical pre-treatment of lignocellulosic biomass

SESSION E5 - Room 7

h. 9:00 - 10:40

LCA of waste management

Chairman / *Presidente*: S. Fiore (IT)

J. Møller, M. Grosso, L. Rigamonti, V. Martinez Sanchez, J. Cavreul, K.L. Barahona Ramonez, S. Magani, T.H. Christensen (IT)

SEWAS (Sustainable European Waste Systems) - Life cycle assessment of prospective integrated waste management schemes

L. Rigamonti, A. Falbo, M. Grosso (IT)

Optimising integrated waste management at the regional level: results from the "GERLA" project

S.J. Burnley, T. Coleman (GB)

Factors influencing the life cycle burdens of the recovery of energy from residual municipal waste

N. Mills, P. Pearce, J. Farrow, R. Thorpe, N. Kirkby (GB)

Life cycle assessment of advanced anaerobic digestion process configurations for sewage sludge - A UK perspective

K. Golkowska, I. Vásquez-Rowe, D. Koster, E. Benetto (LU)

Life cycle assessment of ammonia stripping treatment of biogas digestate

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION E6 - Room 7

h. 11:40 - 13:10

Decision tools & modeling of waste management

Chairman / *Presidente*: K. Kuchta (DE)

H. van der Sloot, A. van Zomeren, D. Kosson, O. Hjelmars (NL)

Integrated decision tool for assessment of environmental compatibility of biomass combustion residues, refuse derived fuel ash and residues from other thermal processes

G. Hafner, C. Maurer, M. Kranert (DE)

Comparison of the valorisation of biogenic fractions of municipal solid waste in biogas plants and energy recovery in incineration plants regarding CO₂ aspects

T. Astrup, R. Turconi, D. Tonini, A. Damgaard, J. Clavreul, T.H. Christensen, A. Boldrin (DK)

EASETECH energy: advanced life cycle assessment of energy from biomass and waste

S. Evangelisti, O. Parkes, P. Lettieri, D. Borello (GB)

Life Cycle Assessment of energy from waste via anaerobic digestion: a UK case study

Y. Matveev, M. Bereznytska (UA)

National model of methane generation for estimation of methane emissions by solid waste disposal in Ukraine

SESSION F5 - Room 8

h. 9:00 - 10:40

Digestione anaerobica (II)

Chairman / *Presidente*: M.C. Lavagnolo (IT)

P. Bozano Gandolfi, V. Nosiglia, G. Vitali (IT)

Codigestione di rifiuti organici, rifiuti commerciali, liquami e biomasse - L'esperienza dell'impianto di Castelleone

I. Pecorini, D. Bacchi, A. Corti (IT)

Studio delle performance di un impianto di digestione anaerobica: test di biometanazione e della biodegradabilità della frazione organica dei rifiuti solidi urbani

C. Del Piccolo, G. Bologna, D. Fatutto, S. De Lorenzi, O. Micheletti (IT)

Una soluzione a scarico liquido zero per la frazione organica del rifiuto solido urbano (FORSU)

Z.B. Chavez Romero, J.L. Colonia Huertas, B. Bosio, E. Arato (IT)

Progettazione di un impianto di depurazione acque con reattori UASB per la produzione di energia in una comunità peruviana

L. Lombardi, E. Carnevale, A. Corti, T. Olivieri, L. Zanchi (IT)

Valutazione economica di processi innovativi per la produzione di biometano

F. Battista, S. Bensaid, F. Erriquens, L. Rutigliano, D. Mescia, R. Zocchi, B. Ruggeri, D. Fino (IT)

Politica integrata per la produzione di biogas: studio delle potenzialità della Regione Puglia

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION F6 - Room 8

h.11:40 - 13:10

Biomasse

Chairman / *Presidente*: M. Grosso (IT)

C. Tilocca, G. Siotto, R. Siotto, N. Careddu (IT)

Realizzazione di un impianto a ciclo combinato per la produzione di energia elettrica con cogenerazione di calore dalla combustione di oli vegetali

M. Ferraris, M. Salvo, S. Rizzo, M. Caldirola, F. Canonico, M. Bianchi (IT)

Riutilizzo di cenere da biomassa in materiali cementizi mediante tecnologie innovative

M. Schiavon, M. Ragazzi, E.C. Rada (IT)

Ruolo del benzene nel settore della valorizzazione energetica di rifiuti e biomasse

F. Viggiano, D. Panepinto, G. Genon (IT)

Potenzialità energetiche da biomassa in una piccola regione: Basilicata

F. Vitali, S. Parmigiani, M. Vaccari, C. Collivignarelli (IT)

Recupero energetico di residui agricoli a scala domestica nei paesi in via di sviluppo

M. Grigatti, L. Barbanti, G. Di Girolamo, L. Cavani, L. Bertin, C. Ciavatta (IT)

Digestione anaerobica di colture alternative da energia

SESSION A7 - Auditorium

h. 14:30 - 16:10

AD Pretreatment (III)

Chairman / *Presidente*: E.C. Rada (IT)

A.C. Luongo, B. Ruggeri, M. Bernardi, D. Fino (IT)

Energy efficacy to score organic refuses pretreatment processes for hydrogen anaerobic production

R. Campunzano, S. González-Martínez (MX)

Biogas production from enzymatically pretreated Mexico City's organic waste

K. Hjort-Gregersen, B. Lorentzen, B. Larsen (DK)

Production of a bio-pulp from source sorted municipal solid waste and recycling via biogas plants and biogas production

C. Mirtsou-Xanthopoulou, E. Jurado, I.V. Skiadas, H.N. Gavala (DK)

On the effect of aqueous ammonia soaking pretreatment on continuous anaerobic digestion of digested swine manure fibers

16:10 - 16:40 Coffee break

SESSION A8 - Auditorium

h. 16:40 - 18:20

AD New concepts

Chairman / *Presidente*: A. Muntoni (IT)

C. Dornack (DE)

Biogas - The process chain from the waste collection to the wastewater disposal

C. Del Piccolo, G. Bologna, D. Fatutto, S. De Lorenzi, O. Micheletti (IT)

A waste to energy solution with zero liquid discharge for the organic fraction of municipal solid waste

C. Ratanatamskul, G. Onnum, K. Yamamoto (TH)

Energy recovery from biogas production by a prototype dry-anaerobic digester for co-digestion of food waste and sewage sludge from high-rise building

M. Cruceru, C. Dragostin, M.M. Voronca, S.L. Voronca (RO)

Analysis of a biomass fuelled cogeneration plant with ORC technology

J. Tsubota, H. Nakanichi, D. Ohmori, N. Kadoya (JP)

Novel compact anaerobic digester using septic tank - Garbage capped anaerobic digester (GcAD)

C. Coubert Barrau (FR)

Bioreactor and biogas recovery in hydrogen: a concept for sustainable landfill treatment in municipal waste in the Tarn department (France)

SESSION B7 - Theatre Hall

h. 14:30 - 16:10

AD Algae & winery waste

Chairman / Presidente: K. Kuchta (DE)

J.C. Akunna, B. Kwiatkowska (GB)

Investigating factors affecting anaerobic digestion of *Ascophylum nodosum* species of seaweed

P. Van Damme (BE)

Euphorbia tirucalli is a better and more sustainable source of biofuel than *Jatropha curcas*

E. Allen, J. Browne, S. Hynes, J.D. Murphy (IE)

The potential of algae blooms to produce renewable gaseous fuel

J.C. Costa, P.R. Gonçalves, A. Nobre, M.M. Alves (PT)

Anaerobic co-digestion of *Ulva* sp. with waste activated sludge

A. Fabbri, S. Serranti, G. Bonifazi (IT)

Investigation about the biomethane potential of winery wastes

D. Spera, E. Heute, G. Montague, D. Weichgrebe, J. Rochard (IT)

“AD-WINE” project: high performance anaerobic digesters for the treatment of medium sized wineries’ effluents

16:10 - 16:40 Coffee break

SESSION B8 - Theatre Hall

h. 16:40 - 18:20

AD Manure

Chairman / Presidente: L. Alibardi (IT)

B. Ruggeri, T. Ponsetti, A.C. Luongo, M. Bernardi, S. Valentino, D. Fino (IT)

Multistep anaerobic digestion (AD) as a tool to increase energy production

S. Oldenburg, F. Haberland, H. Adwiraah, K. Kuchta (DE)

Basics of the energetic utilization of horse manure

S.Y. Oh, H. Kim, C-H. Kim, Y.M. Yoon (KR)

The mass balance of renewable energy production system adopting thermal hydrolysis process and anaerobic digester using waste sludge from poultry slaughterhouse

E. Amirabedin, H. Topal (TR)

Implementation of trigeneration with direct co-combustion of poultry waste and coal in poultry industry in Turkey

C. Vaneekhaute, E. Meers, G. Ghekiere, F. Accoe, E. Michels, F.M.G. Tack (BE)

Nutrient recycling from biodigestion waste as synthetic fertilizer substitutes: a field experiment

V. Lebuf, F. Accoe, C. Vaneekhaute, E. Meers, E. Michels, G. Ghekiere (BE)

Nutrient recovery from digestates: techniques and end-products

SESSION C7 - Room 2

h. 14:30 - 16:10

Gasification of biomass

Chairman / Presidente: U. Arena (IT)

A. Gómez-García, J. Sánchez-Prieto, A. Soria-Verdugo, D. Santana (ES)
MBHE syngas conditioning: modelling approach and exergy optimization

K. Kawamoto, B. Lu (JP)

A biomass gasification/reforming process followed by gas conversion using a novel NiO/SBA-15 mesoporous catalyst

S. Morrin, P. Lettieri, L. Mazzei, C. Chapman, R. Taylor (GB)

Fluid bed gasification - Plasma converter process generating energy from solid waste: experimental assessment of sulphur species

K. Kwiatkowski, J. Krzysztoforski, K. Bajer, M. Dudyński (PL)

The efficiency of heat production from the gasification of feathers

M. Kawase, M. Otake (JP)

Removal of H₂S using molten carbonate at high temperature

16:10 - 16:40 Coffee break

SESSION C8 - Room 2

h. 16:40 - 18:20

Gasification of waste

Chairman / Presidente: U. Arena (IT)

B. Berger, H. Jeanmart, C. Peregrina, A. Bacq, F. Saidi, J.M. Audic, F. Mosnier, F. Burgois (BE)
Experimental investigation of sewage sludge gasification using a two-stage fixed bed downdraft gasifier

M. Kobayashi, K. Yoshikawa, S. Nakahara, A. Paethanom, C. Chaichana (JP)

Low cost tar removal technology for biomass gasification

M.J. Castaldi (US)

Biomass and RDF gasification utilizing ballistic heating TGA analysis

N. Tanigaki, T. Kashiwabara, Y. Ishida, M. Osada (JP)

Municipal solid waste gasification and melting system with low carbon dioxide emission using biomass coke

U. Hellwig, A. Kölling, M. Nowitzki, N. Sachno, L. Viscuso (DE)

System and component design for integrated gasification of civilian material flows

SESSION D7- Room 6

14:30 - 16:10

Energy production from waste treatment

Chairman / *Presidente*: M.J. Castaldi (US)

C. Tilocca, G. Siotto, R. Siotto, N. Careddu (IT)

Combined cycle plant for the production of electricity energy with cogeneration of thermal energy from the combustion of vegetable oils

T. Vollmeier, C. Cecchinato, B. Orlandi, L. Tomaselli (CH)

The integrated waste treatment and energy generation centre of Monte Scarpino, Genova

J. De Greef, K. Villani, J. Goethals, H. van Belle, J. van Caneghem, C. Vandecasteele (BE)

Optimising energy recovery and use of chemicals, resources and materials in modern waste-to-energy plants

L.B. Oliveira, C.F. Mahler, I.R.F.S. Alves (BR)

Potential energy from Brazilian organic waste

16:10 - 16:40 Coffee break

SESSION D8 - Room 6

h. 16:40 - 18:20

Workshop: Microbiological fuel cells

Chairman / *Presidente*: R. Cossu (IT)

J. El Chakhtoura, S. Ghanimeh, M. El-Fadel, P.E. Saikaly (SA)

Electricity generation by microbial fuel cells fuelled with the organic fraction of municipal solid waste

C. Peregrina, Å. Akerman, C. Jourdain, J.M. Audic, N. de Arespacochaga (FR)

Environmental impact of energy production by biogas recycling via fuel cells at WWTP

T. Tommasi, B. Ruggeri, I. Mazzarino, D. Hidalgo (IT)

Commercial carbon-based material as anode in MCF (Microbial Fuel Cell): experimental verification

SESSION E7 - Room 7

h. 14:30 - 16:10

Climate change

Chairman / Presidente: M. Ritzkowski (DE)

J. Levis, M.A. Barlaz (US)

Greenhouse gas mitigation costs associated with solid waste management policies

O.L. Dall, E.T. Naamansen, H. Wenzel (DK)

Carbon footprint for hazardous waste incineration

K. Moliis, T. Myllymaa, H. Dahlbo, A. Tohka, M. Ollikainen (FI)

Managing biowaste and waste water sludge - Climate change impacts and social costs. An application to alternative recovery options in Finland

R. Husgafvel, M. Mäkelä, G. Watkins, M. Päällysaho, I-L. Paavola, O. Dahl (FI)

Options to improve energy efficiency and reduce CO₂ emissions in cross-industrial waste management: a case study from the Bothnian Arc region

16:10 - 16:40 Coffee break

SESSION E8 - Room 7

h. 16:40 - 18:20

Integrated solid waste management - Case studies

Chairman / Presidente: E.C. Rada (IT)

E. Ranieri, E.C. Rada, M. Ragazzi (IT)

Integration of residual MSW incineration and selective collection in tourist areas: critical analysis of two case studies

C. Mahler, A.S. Schueler, Z. Fonseca (BR)

Searching for zero waste: an ongoing experience

T. Lolos, C. Tsompanidis, G. Lolos, K. Paschali Manou, E. Ieremiadi (GR)

Energy from waste as part of an integrated solid waste management system: the case study of Limassol region in Cyprus

M.L. Mastellone, E. Romeo (IT)

A comprehensive analysis of waste collection and management data in an area arising from waste emergency

SESSION F7 - Room 8

h. 14:30 - 16:10

Combustibili liquidi

Chairman / Presidente: L. Alibardi (IT)

G.C. Faussone (IT)

Trasformazione diretta dei rifiuti plastici in carburante liquido

M.J.A. Romero Rivas (IT)

Produzione di biocombustibili tramite idrotattamento catalitico in Lambayeque - Perù

D. Pirozzi, A. Ausiello, A. Yousuf (IT)

Impiego di materiali lignocellulosici per la produzione di biodiesel di II generazione

L. Aloisio, S. Bianchini (IT)

Produzione sostenibile di bioetanolo in Abruzzo: simulazione per valutare il rapporto costo/beneficio della produzione da differenti colture energetiche

C. Pastore, A. Lopez, V. Lotito, G. Mascolo (IT)

Biodiesel da fanghi di depurazione: nuovo studio dettagliato per una più efficiente applicazione

16:10 - 16:40 Coffee break

SESSION F8 - Room 8

h. 16:40 - 18:20

Combustibili e rifiuti

Chairman / Presidente: R. Pomi (IT)

G. Tipaldo (IT)

Dall'emergenza Napoli al miracolo della termovalorizzazione. Come e perchè la copertura informativa messa in atto dalla stampa quotidiana italiana sull'emergenza dei rifiuti di Napoli del 2008 ha influenzato l'opinione pubblica verso la termovalorizzazione

R. Melotti, E. Santagata, M. Bassani, O. Baglieri, M. Ferraris, M. Salvo, S. Rizzo (IT)

Riutilizzo di ceneri da combustione di rifiuti solidi urbani e biomassa nei conglomerati bituminosi

D. Panepinto, G. Genon, A. Senor (IT)

Valutazione di due diversi scenari di recupero energetico nell'incenerimento dei RSU: un caso studio

F. Miccio, G. Ruoppolo, M. Urciolo (IT)

Valorizzazione in letto fluido di residui di origine biogenica (sansa di oliva) come risorsa energetica

A. Guercio, P. Fioretti (IT)

Sicurezza sul lavoro negli impianti di incenerimento di rifiuti solidi urbani: spazi con-finati

SESSION A9 - Auditorium

h. 9:00 - 10:40

AD Process control

Chairman / *Presidente*: D. Pirozzi (IT)

H. Würdemann, A. Kleyböcker, T. Lienen, M. Liebrich, S. Lerm (DE)

Early warning indicator - Increased process understanding helps to avoid disturbances of biogas production

N. Engler, U. Merrettig-Bruns, A. Feher, T. Fritz, M. Nelles (DE)

Prediction of potentially inhibiting effects on anaerobic digestion processes

A. Kleyböcker, M. Liebrich, T. Lienen, H. Würdemann (DE)

Early warning indicator in terms of the process failure and its application to maximize the time-space-yield

S. Strömberg, J. Chen, M. Nistor, J. Liu (SE)

Standardisation as a key to reliable gas measurements in biochemical methane potential (BMP) tests

M. Nistor, S. Strömberg, J. Chen, J. Liu (SE)

Automatic methane potential test system (AMPTS II) as a tool for screening and selecting organic substrates for anaerobic digestion processes

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION A10 - Auditorium

h. 11:40 - 13:10

AD Processes microbiological aspects & hygiene

Chairman / *Presidente*: M.W. Milke (NZ)

S. Ghanimeh, P. Saikaly, M. El-Fadel (SA)

Population dynamics during startup of thermophilic anaerobic digesters: the mixing factor

T. Lienen, A. Kleyböcker, H. Würdemann (DE)

Microthrix parvicella and *Cloacamonas acidaminovorans*: indicator organisms for foam formation in large-scale biogas plants?

T. Ueda, C. Enokizono, Y. Kodani, M. Fukuya, R. Imoto, F. Kaida (JP)

Isolation and breeding of microorganisms for higher biogas-producing activity by a novel biosphere screening method

B. Munk, B. Fröschle, M. Leubhn (DE)

Activity of bacteria of the intermediary metabolism and methanogens in agricultural biogas plants

M. Liebrich, A. Kleyböcker, M. Kasina, A. Kassahun, H. Würdemann (DE)

Influence of the microbial community and mineral formation on the process performance of biogas production

SESSION B9 - Theatre Hall

h. 9:00 - 10:40

Bio-H₂ production (I)

Chairman / *Presidente*: B. Ruggeri (IT)

G. De Gioannis, M. Friargiu, E. Massi, A. Muntoni, A. Polettini, R. Pomi (IT)

Effects of pH value on biohydrogen production from cheese whey

J-C. Motte, E. Trably, R. Escudie, N. Bernet (FR)

Impact of water content on the hydrogen production from lignocellulosic residues by dark fermentation

K. Kuchta, N. Wiczorek, D. Rechtenbach, S. Koch, J. Heerenklage (DE)

Anaerobic thermophilic fermentation of microalgae *Chlorella vulgaris* for hydrogen production

G. De Gioannis, M. Friargiu, G. Giordano, E. Massi, A. Muntoni, A. Polettini, R. Pomi (IT)

Fermentative hydrogen production from the organic fraction of municipal waste

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION B10 - Theatre Hall

h. 11:40 - 13:10

Bio-H₂ production (II)

Chairman / *Presidente*: B. Ruggeri (IT)

D.M.F. Lima, W.K. Moreira, M. Zaiat (BR)

Comparison between the use of sucrose and glucose as substrate in hydrogen production reactor in an upflow anaerobic fixed-bed reactor

J. Arreola-Vargas, J.S. Abreu-Sherrer, L.B. Celis, E. Razo-Flores, F. Alatraste-Mondragón (MX)

Hydrogen production from oat straw hydrolysates and glucose: effect of the type of substrate and type of inoculum

M.A. Goula, O. Bereketidou, N.D. Charisiou (GR)

Environmental assessment of glycerol utilization for hydrogen production

M. Dareioti, K. Stauropoulos, A.I. Vavouraki, M. Kornaros (GR)

Effective biohydrogen production from a mixture of agroindustrial wastes and sweet sorghum stalks

SESSION C9 - Room 2

h. 9:00 - 10:40

Gasification process development

Chairman / *Presidente*: M.L. Mastellone (IT)

S. Peres, F. Silva, A.F. Nascimento Jr., E.C.M. Loureiro, B.C.A. Geraldo (BR)

Syngas production using city prunings in a downdraft gasifier

M.H. Cho, T.Y. Mun, J.S. Kim (KR)

Air gasification of mixed plastic wastes in a two-stage gasifier. Effects of bed material and activated carbon for the production of a low-tar and hydrogen-rich producer gas

B. Lah, D. Klinar, B. Likozar (SI)

Vacuum pyrolysis of scrap rubber: determination of optimal process parameters from laboratory and pilot-scale measurements and calculations

G. del Alamo, P. Lundström, A. Grimshaw (NO)

Thermochemical description of the MSW gasification process in a moving-bed gasifier based on in-line measurements

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION C10 - Room 2

h. 11:40 - 13:10

Plasma pyrolysis/gasification

Chairman / *Presidente*: M. Ragazzi (IT)

M. Hlina, M. Hrabovsky, T. Kavka, M. Konrad (CZ)

Production of high quality syngas from argon/water plasma gasification of biomass and waste

R.J. Taylor, M. Materazzi, P. Lettieri, C.D. Chapman (GB)

Advanced Plasma Power Ltd: converting waste into valuable resources with the Gasplasma® process

L.J. Circeo, L. Bardari (US)

Plasma gasification: a significant global waste-to-energy opportunity

A. Rahimian, I. Azni, K. Khalid, M.A. Mohd Salleh (MY)

Effect of temperature on composition of produced gas in microwave pyrolysis of MSW

SESSION D9 - Room 6

h. 9:00 - 10:40

Liquid biofuel production

Chairman / *Presidente*: J. Werther (DE)

K. Smets, A. Roukaerts, J. Czech, S. Schreurs, R. Carleer, J. Yperman (BE)

Slow catalytic pyrolysis of rapeseed cake: product yield and characterization of the pyrolysis liquid

Y.P. Wu, H.M. Huang, Y.F. Lin, W.D. Huang, Y.J. Huang (TW)

Mackerel biodiesel production from the wastewater containing fish oil

F.A. López, A. Urien, T.A. Centeno, O. Rodríguez, I. García-Díaz, F.J. Alguacil, R. Rodríguez, R. Grau (ES)

Bio-oil production from distillation of *abies alba mill* residual wood. Gases, bio-oil and char characterization.

G.R. Liu, G.Y. Chen, B.B. Yan (CN)

A three-step process for biodiesel production from acidic oil

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION D10 - Room 6

h. 11:40 - 13:10

Energy from sewage sludge

Chairman / *Presidente*: C. Dornack (DE)

R.G. Zytner, R. Pinder, C. McEwen (CA)

Treating municipal biosolids in a hot hydrogen rich environment

Z.B. Chavez Romero, J.L. Colonia Huertas, B. Bosio, E. Arato (IT)

Large scale upflow anaerobic sludge blanket (UASB) for energy production in a Peruvian community

Y. Wang, G.Y. Chen, D.H. Pan, S.Q. Liu (CN)

Experimental study of bio-oil recovery from sewage sludge by direct liquefaction in supercritical water

C. Pastore, A. Lopez, V. Lotito, G. Mascolo (IT)

Biodiesel from municipal sludge: a new approach for a more efficient application

M.A. Goula, N.D. Charisiou, V.G. Papadakis (GR)

Sustainability assessment of agricultural waste biomass exploitations

SESSION E9 - Room 7

h. 9:00 - 10:40

Innovative technology development (I)

Chairman / *Presidente*: T. Matsuto (JP)

A. Glemot, M. Crest, F. Lebars, Y. Briend, Y. Tsai, B. Thomas (FR)

Technical and economical assessment of micro-cogeneration technologies for sewage biogas

P. Thanikaivelan, N.T. Narayanan, B.K. Gupta, A.L.M. Reddy, P.M. Ajayan (IN)

Stabilization of collagen waste using iron oxide nanoparticles and its conversion into magnetic carbon

E. Gidarakos, F.M. Pelleria, P. Pappa (GR)

Reuse of spent coffee waste for biochar production

L. Lamaa, L. Fine, C. Ferronato, J.M. Chovelon (FR)

Quantification of volatile methyl siloxanes (VMS) in biogas: comparison of adsorbents

M. Münster, G. Finnveden, H. Wenzel (DK)

Future waste treatment and energy production - An example of development of joint scenarios

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION E10 - Room 7

h. 11:40 - 13:10

Innovative technology development (II)

Chairman / *Presidente*: T. Matsuto (JP)

M. Naismith, E. Timmermans, T. Hillebregt (DE)

A new, effective solution for landfill gas extraction

M.P. Zacharof, R.W. Lovitt (GB)

The utilisation of anaerobic digester effluent streams as a potential source of nutrients

A. Sotiropoulos, D. Malamis, M. Loizidou (GR)

Pilot scale demonstration of food waste drying at household level

M.P. Zacharof, R.W. Lovitt (GB)

The recovery of Volatile Fatty Acids (VFA) from mixed effluent streams using membrane technology. A literature review

SESSION F9 - Room 8

h. 9:00 - 10:40

Energy recovery in developing countries

Chairman / Presidente: L.F. Díaz (US)

F. Vitali, S. Parmigiani, M. Vaccari, C. Collivignarelli (IT)

Energy recovery of agricultural residue at household level in developing countries

R. S. Sa'id, S.U. Ugbor, H.S. Adamu (NG)

Mitigation strategy for deforestation: briquettes from carpenters' waste

D.A. Taufiq (BD)

Dissemination of poultry litter based captive power generation using biogas technology in Bangladesh

C.H. Pham, J.M. Triolo, L. Pedersen, S.G. Sommer (VN)

Methane productivity and algorithms for psychrophilic simple biogas digester

10:40 - 11:10 Coffee break

11:10 - 11:40 Poster discussion

SESSION F10 - Room 8

h. 11:40 - 13:10

Biogas solutions for developing countries

Chairman / Presidente: V. Torretta (IT)

R.C. Barreto, C.M. Araújo, L.O. Pacheco (BR)

Biodigesters in schools: an energy idea

M.T. Smith, J. Schroenn Goebel, J.N. Blignaut (ZA)

The financial and economic feasibility of rural household biodigesters for poor communities in South Africa and their potential to meet sustainable development needs

M. Mishra, S.K. Jain, A. Rajpal (IN)

Municipal Solid Waste: a potential source of energy

U. Walairat, R. Chawalit (TH)

The development of dry fermentation from municipal waste for biogas production in Thailand

R. Verma (IN)

Biogas production to mitigate Green House Gas emission

SESSION A11 - Auditorium

h. 14:30 - 16:10

AD Process optimization

Chairman / Presidente: R. Raga (IT)

J.D. Browne, E. Allen, J.D. Murphy (IE)

Improving hydrolysis in multiphase digestion of food waste

V. Dandikas, C. Marin Pérez, K. Koch, M. Leubhn, A. Weber, A. Gronauer (DE)

Effect of retention time in the hydrolytic phase of a two-phase anaerobic digestion system on reactor performance

A. Babae, J. Shayegan, A. Roshani (IR)

Effect of mixing modes on the performance of municipal solid waste anaerobic slurry digester

H. Benbelkacem, D. Loisel, J. Bollon, R. Poncet, H. Perier-Camby, J.P. Steyer, P. Buffiere, R. Escudie (FR)

Determination of Residence Time Distribution in dry anaerobic digesters

J-H. Bae, D-J. Tian, J-S. Lee, H.B. Jun (KR)

Temperature effects on solubilization and acidification of food waste leachate

E. Nordell, J. Moestedt, L. Wiberg, M. Karlsson (SE)

A trace metal formulation that reinforces the effects of a cobalt additive

16:10 - 16:40 Coffee break

SESSION B11 - Theatre Hall

h. 14:30 - 16:10

Bioenergy production - Case studies

Chairman / Presidente: E. Gidarakos (GR)

F. Battista, S. Bensaid, F. Erriques, L. Rutigliano, D. Mescia, R. Zocchi, B. Ruggeri, D. Fino (IT)

Integrated policy for bio-energy production: the Apulia region case study

M. Gawor, C. Hennig, S. Majer (DE)

Environmental impacts and economic feasibility of producing bioenergy under various frame conditions - Case study Germany

A. El Hanandeh, A. El-Zein (AU)

Increasing energy from waste production vs GHG emissions reduction: the case of Sydney

R. Guisson, L. Pelkmans, N. Devriendt, N. Marquez-Luzardo, J. Broeze, M. van Dael, S. van Passel, P. Reumerman (BE)

Energy conversion parks - A concept case study for the efficient use of locally available biomass

16:10 - 16:40 Coffee break

SESSION C11 - Room 2

h. 14:30 - 16:10

Evaluation and simulation of pyrolysis

Chairman / *Presidente*: M.J. Castaldi (US)

O. Kolokolova, T. Levi (NZ)

Torrefaction and pyrolysis of woody biomass in a continuous reactor

S.H. Jung, J.S. Kim (KR)

Production of biochar by pyrolysis and activated bio-char from oak using a CO₂ as activating agent

F. Abnisa, W.M.A. Wan Daud, J.N. Sahu (MY)

Pyrolysis of palm shell and polystyrene mixtures: an optional technique to obtain the high-grade of pyrolytic liquid

R. Wnetrzak, J.J. Leahy, K. Peters, L.S. Jensen, W. Kwapinski (IE)

Energy production potentials from pyrolysis of pig manure

M. Ragazzi, S. Ciuta, E.C. Rada, C. Marculescu, A. Badea (IT)

Conventional and alternative thermal treatment methods applied to wine making industry wastes for energy generation

16:10 - 16:40 Coffee break

SESSION D11 - Room 6

h. 14:30 - 16:10

Workshop: Health & Safety in MSW incinerators

Chairman / *Presidente*: G. Genon (IT)

A. Guercio, P. Fioretti (IT)

OH&S in municipal waste incinerators: a focus about confined spaces

16:10 - 16:40 Coffee break



SESSION E11 - Room 7

h. 14:30 - 16:10

Impacts of biowaste management

Chairman / Presidente: R. Pomi (IT)

M. Hupponen, M. Luoranen, M. Horttanainen (FI)

Life cycle assessment of the greenhouse gas emissions from the biowaste management: case study of Lappeenranta, Finland

S.A. Batool, M. Nawaz Chaudhry (PK)

Life cycle assessment of management options for the biodegradable fraction of municipal solid waste in Lahore, Pakistan

M. Alberti, G. Tomasoni, M. Collotta, A. Marini, F. Cavalli (IT)

A streamlined comparative life cycle assessment of three technologies for manure anaerobic digestion in small sized plants

T.L. Gladding, A.E. Simpson (GB)

Dust and bioaerosols at mechanical biological treatment (MBT) facilities

M. Schiavon, M. Ragazzi, E.C. Rada (IT)

Role of benzene in the waste and biomass energy valorization sector

16:10 - 16:40 Coffee break

SESSION F11 - Room 8

h. 14:30 - 16:10

Lessons from Venice 2012

Chairman / Presidente: R. Cossu (IT)

R. Stegmann (DE)

Anaerobic digestion as a pathway for energy generation

U. Arena (IT)

Gasification as a pathway for energy generation

16:10 - 16:40 Coffee break



SESSION A12 - Auditorium
Closing Session / *Sessione di chiusura*

h. 16:40 -18:20

ROUND TABLE:

Technical, administrative and economic issues in source segregation and urban mining of municipal and industrial residues suitable for Waste to Energy programmes

Chairman / *Presidente*: R. Cossu (IT)

Coordinator / *Moderatore*: A. Cianciullo (IT)

Participants from:

- IWWG, *International Waste Working Group*
- GITISA, *Italian Group of Environmental Sanitary Engineering*
- COREPLA, *Italian National Consortium for the Collection Recycling and Recovery of Plastic Packaging*
- Tavolo di Roma, *a think tank on Sustainable Resources and Waste Management*

will contribute to the discussion.



TECHNICAL TOURS

Four guided technical tours of real scale plants operating in the production of energy from biomass and waste both by means of thermal and biological processes have been arranged for Thursday 15th November:

1. Bio Treatment plant in Camposampiero (approx. 1hr from Venice), managed by Etra Spa
2. Anaerobic Digestion plant in Bassano del Grappa (approx. 1hr 30mins from Venice), managed by Etra Spa
3. MSW Incineration plant in Padova (approx. 1hr from Venice), managed by Acegas Aps Spa
4. MSW Incineration plant in Brescia (approx. 2hrs from Venice), managed by Aprica Spa

Buffet lunches will be offered to all delegates taking part in the tours.

Places are limited and have been assigned on a first-come first-served basis. Participants who have not yet booked their place but would like to attend the above tours should contact a member of staff at the Symposium Registration Desk as soon as possible.

Coaches will be provided by the Organizers. All details on departure and expected return times are available at the Registration Desk.

VISITE TECNICHE

Nella giornata di Giovedì 15 Novembre sono previste quattro visite tecniche ad i seguenti impianti di produzione di energia da biomasse e rifiuti attraverso processi termici e biologici:

- 1. Impianto di trattamento biologico di Camposampiero (a circa 1 ora da Venezia), gestito da Etra Spa*
- 2. Impianto di digestione anaerobica di Bassano del Grappa (a circa 1 ora e mezza da Venezia), gestito da Etra Spa*
- 3. Impianto di termoutilizzazione dei rifiuti solidi urbani di Padova (a circa 1 ora da Venezia), gestito da Acegas Aps Spa*
- 4. Impianto di termoutilizzazione dei rifiuti solidi urbani di Brescia (a circa 2 ore da Venezia), gestito da Aprica Spa*

Alla conclusione delle visite presso ciascun impianto sarà offerto un buffet a tutti i partecipanti.

I posti sono limitati e sono stati assegnati strettamente in ordine di prenotazione. I partecipanti che ancora non avessero prenotato il proprio posto ma che volessero partecipare ad una delle visite tecniche proposte sono pregati di contattare lo staff presso il banco di registrazione al più presto possibile.

Il trasporto verso e dagli impianti è a carico dell'Organizzazione del Simposio. Tutti i dettagli sugli orari di partenza e di ritorno sono disponibili presso il banco di registrazione.

POSTER SESSION

Poster presentations will be accessible to Symposium delegates at all times. Poster discussion will take place in the presence of authors on Monday, Tuesday and Wednesday morning from 11:10 to 11:40.

SESSIONE POSTER

Le presentazioni poster saranno sempre accessibili ai partecipanti al Simposio. La discussione dei poster avverrà alla presenza degli autori, lunedì, martedì e mercoledì mattina dalle 11:10 alle 11:40.

A. Pre-treatments

A01 - *H. Basturcku, N. Acarckan (TR)*

Comparison of centrifugal separators in desulfurization of coal

A02 - *M. Zieliński, M. Dębowski, M. Krzemieniewski (PL)*

Effect of hydrothermal depolymerization and enzymatic hydrolysis of miscanthus giganteus biomass on the yield of methane fermentation

A03 - *M. Dębowski, M. Krzemieniewski, M. Zieliński (PL)*

Effect of algae biomass addition on the effectiveness of methane fermentation of maize silage

A04 - *W. Apiwatanapiwat, Y. Murata, W. Thanapase, A. Kosugi, T. Arai, Y. Mori, P. Vaitanomsat (TH)*

The effect of cassava pulp pretreatment on ethanol production

A05 - *P. Racho, W. Wonglertarak, B. Wichitsathian (TH)*

Alkaline and carbonate recirculation pretreatment of anaerobic digestion for waste activated sludge (WAS)

A06 - *A.I. Vavouraki, M. Kornaros (GR)*

Preliminary study on optimization of chemical and enzymatic hydrolysis of kitchen wastes

A07 - *S. Araujo, B. Vital, T. Vieira, F. Costa, M. Vilas Boas (BR)*

Properties of thermal-rectified wood *Eucalyptus* sp.

B. Thermal treatments

B01 - *F.L. Mendes, A.R. Pinho, M.A.G. Figueiredo (BR)*

Study of the pyrolysis process for obtaining fuel for the second generation using biomass as raw material

B02 - *T.Y. Mun, M.H. Cho, J.S. Kim (KR)*

Hydrogen production and tar reduction in air gasification of dried sewage sludge using a two-stage gasifier with steam as a tar reduction agent

B03 - *I. S. Antonopoulos, A. Gkoultsos, A. Karagiannidis, G. Perkoulidis, C. Achillas (GR)*
Modelling of a biomass downdraft gasifier fed by agricultural residues

B04 - *M.A.M. Costa, J.A. Carvalho Jr., S.S. Amaral, J.E. Fernandes, F.A. Filho, B.A. Lima, T.M. Vieira, R.D. Ribeiro, D.C. Negri, T.H. Almeida (BR)*

Quantification of pollutants emitted from burning wood and sugarcane biomass fuels

B05 - *K. Woytiuk, W. Campbell, R. Gerspacher, R.W. Evitts, A. Phoenix (CA)*

Effect of torrefaction on syngas quality from short rotation coppice willow in Saskatchewan

B06 - *G. Cappai, A. Carucci, G. De Giudici, A. Muntoni, M. Piredda (IT)*

Application of different stabilization treatments for municipal waste combustion APC

B07 - *S. Cappa, R. Esposito, L. Losa, U. Parravicini, D. Sciunnach (IT)*

Waste incineration in Lombardy (Northern Italy)

B08 - *M. Ragazzi, E.C. Rada, M. Tubino (IT)*

Effects of maintenance scheduling criteria on the local impact of a MSW incinerator

C. Biological treatments

C01 - *A. Lacalle, A. Escudero, F. Blanco, M. Pinto, I. Díaz, A. Domínguez (ES)*

Anaerobic digestion of solid slaughterhouse wastes at laboratory scale

C02 - *E. Petropoulos, J. Dolfing, R. Davenport, E. Bowen (GB)*

Anaerobic digestion of domestic wastewater at low temperatures (4, 8 and 15°C) in reactors with psychrophilic inocula

C03 - *S. Luste, H. Soininen (FI)*

Co-digestion of chicken manure - Effect of glycerol addition, feed ratio and digestion time on the methane production and on the hygiene of the digestate

C04 - *J. Moestedt, E. Nordell, M. Karlsson (SE)*

A cost effective experimental biogas reactor adapted for complex and particulate material

C05 - *C. Santibañez, I. Homer, M.T. Varnero (CL)*

Anaerobic digestion of residual glycerol from biodiesel industry

C06 - *Y.M. Yoon, S.H. Kim, S.Y. Oh, C.H. Kim (KR)*

Potential of anaerobic digestion for material recovery and energy production in waste biomass from poultry slaughterhouse

C07 - *S.J. Yun, S.H. Kim, Y.M. Yoon, C.H. Kim (KR)*

Pyrosequencing-based microbial community analysis by treatment of sodium acetate in anaerobic batch recovery with pig slurry

C08 - *S.H. Kim, C.H. Kim, G.C. Jin, Y.M. Yoon (KR)*

Effect of substrate to inoculum ratio on biochemical methane potential assay of live-stock waste biomass

C09 - *M. Schiavon, M. Ragazzi, E.C. Rada (IT)*

Biogas modeling for the analysis of its exploitability in a MSW sanitary landfill

C10 - *A.M. Fredenslund, T. Budde Christensen, T. Kjør (DK)*

Environmental perspectives on using cast seaweed for biogas production

D. Residues

D01 - *S. Sarenbo (SE)*

In situ decomposition of PAH in ash agglomerates

D02 - *R. Melotti, E. Santagata, M. Bassani, O. Baglieri, M. Ferraris, M. Salvo, S. Rizzo (IT)*

Re-use of ashes from the combustion of municipal solid waste and biomass in bituminous mixtures

D03 - *M.S. Crespi, L.D.M. Torquato, D. Vitorino, D. Daré, C.A. Ribeiro, S. Almeida, P.C.G.M. Crnkovic (BR)*

Solid waste characterization generated by different technologies of sewage treatment by XRD, FTIR and thermogravimetry

D04 - *M. Ferraris, M. Salvo, S. Rizzo, M. Caldirola, F. Canonico, M. Bianchi (IT)*

Recycling biomass ash into supplementary cementitious materials (SCMs) through innovative technologies

E. Strategies

E01 - *P. Vaithanomsat, P. Thongsuntie, P. Khomkamon, D. Srichana (TH)*

Forage crops as the second generation for bioenergy

E02 - *M. Masood, C.Y. Barlow (GB)*

Status of solid waste management practices in developing countries - A case study on Lahore, Pakistan

E03 - *I.A. Istrate, C. Streche, A. Badea, E.C. Rada (RO)*

DCT techniques vs incineration for remediation of soils contaminated by diesel and salts

E04 - *I.S. Antonopoulos, A. Karagiannidis, T. Tsatsarelis Perkoilidis, G. Achilles, C. Achilles (GR)*

Waste to energy strategies in Sparta Municipality in the context of life cycle approach

E05 - *A. Pereira (GB)*

Issues relating to the problem of waste in the city of São Paulo, Brazil

E06 - *M. Dolinsky, P. Molnar (SK)*

Universal model for pioneering environmental performance assessment of small and middle sized enterprises

E07 - *M. Carvalho, A. Bufoni, L. Oliveira, L. Rosa (BR)*

Economic and environmental viability of sustainable disposal of municipal solid waste from the city of Rio de Janeiro - Brazil

E08 - *U. Lange, B. Bilitewski (DE)*

Informal sector activities: economic influences on waste management systems

E09 - *P. Fioretti, A. Guercio (IT)*

SGSL-R guidelines: a support for waste/recycling companies towards global prevention

E10 - *C. Achillas, N. Moussiopoulos, A. Karagiannidis (GR)*

Choosing among alternative WEEE management schemes: the optimal scenario for Greece

E11 - *R.P. Ribas, M.A.V. de Freitas, M.S.M. de Araújo (BR)*

Brazilian greenhouse gas emissions: fuel demand and comparison mitigation scenarios trends

E12 - *E.J. Lam Esquenazi, I.L. Montofré, M.E. Gálvez, J.L. Montiel, O.E. Arancibia (CL)*

Biomass accumulation in phytoremediation as a potential renewable energy source

F. Biofuel

F01 - *S.I. Maintinguer, I.K. Sakamoto, L.L. Oliveira, M.B.A. Varesche (BR)*

Evaluation of the microbial diversity from environmental sample applied to hydrogen bioproduction

F02 - *P. Khomkamon, P. Vaithanomsat, W. Apiwatanapiwat, V. Punsuvon (TH)*

Ethanol fermentation from glucose and xylose in oil palm empty fruit bunch

F03 - *R.C. dos Santos, A.C.O. Carneiro, R.V.O. Castro, E.M. Pinto, A.F.N.M. Castro (BR)*

Energy potential of species from forest management plan of Rio Grande do Norte State

F04 - *M.J.A. Romero Rivas (IT)*

Biofuel production through the technology of catalytic hydrotreating in Lambayeque - Peru

F05 - *C.C. Conconi, P.M. Crnkovic (BR)*

Thermal behavior of the renewable diesel from sugar cane, biodiesel, fossil diesel and their blends

F06 - *M.E. Borges, L. Díaz, J.C. Ruiz (ES)*

Biodiesel from biomass and wastes: development of a heterogeneous catalyst with possible application in industrial reactors

F07 - *J. Jauregui-Rincon, G.E. Coq-Gonzalez (MX)*

Production of biodiesel from guava oil

F08 - *C. Santibañez, M.T. Varnero, I. Homer (CL)*

Characteristics of *Geoffroea decorticans* oil seed from Chile and its potential as biodiesel feedstock

F09 - *C. Santibañez, M.T. Varnero (CL)*

Potential of seed cake from biodiesel production as soil amendment

F10 - *L. Aloisio, S. Bianchini (IT)*

Bioethanol sustainable production in Abruzzo region: simulations to evaluate cost/benefit of different energy crops

F11 - *S.K. Chouksey, G.L. Sivakumer Bebu (IN)*

Analysis of municipal solid waste using constitutive modeling approach

F12 - *A. Ben Hassen-Trabelsi, T. Kraiem, S. Naoui, H. Belayouni (TN)*

Pyrolysis of waste animal fats in a fixed-bed reactor: production and characterization of bio-oil and bio-char

G. Other topics

G01 - *M. Krzemieniewski, M. Dębowski, M. Zieliński (PL)*

Effect of wastewaters from chemical toilets on technological effectiveness of maize silage fermentation

G02 - *A. Takahashi, T. Kameyama, Y. Suzuki, M. Nakamura, Y. Otsuka, Y. Katayama (JP)*

Pre-treatment method in a bio-degradation system for extracting polychlorinated dioxins from contaminated soil and sediments

G03 - *E. David, J. Kopac (RO)*

Generation, measurement and abatement of odors released of metalworking fluids and aluminum slag disposal

G04 - *S.T.A. Cassini, C. Rodrigues, L.M. Pinotti, P.W.P Antunes, R.F. Gonçalves, R. Keller (BR)*

Lipolytic microorganism for biocatalytic transesterification of oily residues derived from environmental sanitation (SPR)

G05 - *S. Mucyo, D. Blackwood, J.C. Akunna (GB)*

Household solid waste characterisation and public attitude towards source waste separation in Kigali City, Rwanda

G06 - *N. Nakamura, Y. Otsuka, E. Masai, K. Shigehara, K. Shikinaka, Y. Katayama (JP)*

2-pyrone-4,6-dicarboxylic acid as a source of green-plastics from lignin-derived stable metabolic intermediate

G07 - *R. Mudassarm, K. Melin, K. Sarada, J. Koskinen, M. Hurme (FI)*

Novel treatment method for black liquor and biomass hydrolysate with partial wet oxidation and subsequent chemical conversion

G08 - *G. Souza, C. Ruoso, N.M. Balzaretto, N.R. Marcilio, O.W. Perez Lopez (BR)*

Synthesis gas and carbon nanotubes production from catalytic decomposition of renewable resources

G09 - *M.A. Azevedo, E. Ranieri (IT)*

Proposal of a new method of aeration for composting in aerated static piles

G10 - *A. Kassahun, M. Hache, M. Liebrich, H. Würdemann (DE)*

Visualization of biofilm components by fluorescence microscopy

G11 - *J. Hobohm, K. Kessel, K. Kuchta (DE)*

Recovery potential of rare earth metals in displays

G12 - G. Rösler , T. Griessacher, J. Antrekowitsch (AT)

The influence of charcoal properties on its applicability in metallurgical operations

G13 - M. Aljaradin, K.M. Persson (SE)

Modeling of different landfill daily cover using Hydrus 1D considering temperature effect - Mafraq, Jordan

G14 - S. Tadakittisarn, P. Janchai, R. Kaveeta (TH)

The effect of temperature and duration of storage on moisture, free fatty acid and lipase of *Jatropha curcas* L. seeds and seed oil



COMPANIES EXHIBITION

Our companies exhibition will be held in the Palazzina Grecale and will be accessible to Symposium delegates at all times from Monday to Wednesday. Please find below a list of exhibitors.

ESPOSIZIONE COMMERCIALE

L'esposizione commerciale sarà allestita nella Palazzina Grecale e sarà accessibile in qualsiasi momento dal lunedì al mercoledì. Si elencano di seguito gli espositori presenti.

A2A

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A2A is the multiutility born on 1st January 2008 as a result of the merger between AEM SpA Milan and ASM SpA Brescia with the contribution of Amsa and Ecodeco, the two companies acquired by the Group. At present, A2A is:

- national leader in the environmental sector, given that it treats more than 3 million tons of waste
- in 1st place between the former Italian public utilities companies in terms of clients and turnover
- in 1st place in Italy in the district heating sector
- in 2nd place in Italy in terms of installed electric capacity and volumes of sales
- in 3rd place in Italy in terms of gas sold

ACEGAS APS

Corso Stati Uniti, 5 - 35127 Padova, Italy
info.pd@acegas-aps.it / www.gruppo.acegas-aps.it

AcegasAps

AcegasAps Group is a multi utility company listed on the Milan Stock Exchange, currently operating in the provinces of Padua and Trieste in conformity with the Corporate Sustainability.

The company is active in the management and distribution of water, electricity and gas, in the collection and treatment of waste as well as in the main public services.

AcegasAps Group works to be a point of reference in northeast Italy and eastern Europe for the supply of essential, quality of life services by continuously seeking to improve efficiency and reliability, by paying attention to the community and the environment, and promoting career development.

A.T.I. Srl

Legal head office

Via T. da Modena, 28 - 31056 Roncade (TV), Italy
Tel. +39 0422 840220 / Fax. +39 0422 840923

Operational head office

Z.I. Terrafino - Via Volontari della Libertà, 54/56 - 50053 Empoli (FI), Italy
Tel. +39 0571 944664 / Fax +39 0571 945070
info@acmotec.com / www.acmotec.com



A.T.I. designs and manufactures remote control and automation systems, integrating hardware and software standard devices with dedicated solutions.

A.T.I. is based on the synergy between its technical and commercial staff, with decades of experience in remote control monitoring and automation, with AC.MO SpA, Italian leader in production and sale of electro hydraulic equipment.

BABCOCK AND WILCOX VØLUND

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Tel. +45 76 14 34 00

Fax. +45 76 14 36 00

CVR number: 25 05 36 64



Babcock & Wilcox Vølund is one of the world's leading suppliers of equipment and technologies designed to convert household waste and biomass into thermal energy. We have designed and built more than 500 waste-to-energy and biomass production lines, providing heat and electricity to their communities.

CHILIVANI AMBIENTE S.p.A.

Legal head office:

c/o Centro Servizi

Zona Industriale Chilivani, Ozieri (SS), Italy

Controlled landfill:

Loc. "Coldianu" - Ozieri (SS), Italy

Tel. +39 079 770024 / Fax +39 079 770367

info@chilivaniambiente.it / www.chilivaniambiente.it



Chilivani Ambiente works on urban hygiene management services, collection, transport, and both MSW and AMSW disposal; it also manages waste-treatment plants and refuse storage. Since 1999, it has been managing the controlled landfill for non-hazardous MSW in the area of "Coldianu", Ozieri (SS).

The company was awarded an excellence certification for the compliance of its management system "Quality, Environment and Safety" to the following regulations:

UNI EN ISO 9001:2008 (Management System Quality);

UNI EN ISO 14001:2004 (Environmental protection);

OHSAS 18001:2007 (Safety on the workplace).

ECOSERDIANA S.p.A.

Legal head office:

Via Dell'Artigianato 6 - Cagliari, Italy

Plants:

S.S. 387 Km 23+800 - Serdiana (CA), Italy

Tel. +39 0702116300 / Fax +39 0702116380

info@ecoserdiana.com / www.ecoserdiana.com

For over twenty years, ECOSERDIANA has been operating in the fields of environmental services and engineering. In 2004 the company was awarded an excellence certification for the compliance of its management system "Quality, Environment and Safety" to the following regulations: UNI EN ISO 9001:2008 (Management System Quality); UNI EN ISO 14001:2004 (Environmental protection) and OHSAS 18001:2007 (Safety on the workplace).

ECOSERDIANA planned, built and still manages controlled landfills for mostly organic non-hazardous waste, with biogas recovery; the total amounts of treated waste is 2.000.000 mc for organic waste and over 1.000.000 mc for special and hazardous/non hazardous waste.

ELSEVIER

Sandra Broerse

Publisher Environmental Sciences and Ecology II, Elsevier

Radarweg 29, 1043 NX Amsterdam, The Netherlands

s.broerse@elsevier.com / www.environmental.elsevier.com



Elsevier brings together the best research tools for the scientific community through a combination of journals, books, major reference works, scientific search engines and databases.

The official Journal of IWWG is Waste Management, published by Elsevier, with an impact factor of 2.428 and edited by Raffaello Cossu with a highly qualified team of Associate Editors.

Other top-level journals in the environmental field such as Journal of Cleaner Production, Resources, Conservation and Recycling, Environmental Innovation and Societal Transitions, and Journal of Environmental Management demonstrate the important and exciting research published through Elsevier

EUBCE - European Biomass Conference and Exhibition

organised by:

ETA s.r.l. - Via Giacomini, 28 - 50132 Florence, Italy

contact: Martina Querforth

biomass.conference@etaflorence.it



For over 30 years now, the European Biomass Conference and Exhibition (EU BC&E) has combined a very renowned international Scientific Conference with an Industry Exhibition. It provides an high-level scientific programme and parallel events which attract participants from a wide ranging background: Researchers, engineers, technologists, standards organisations, financing institutions and further. Such a global exchange platform of current knowledge in turn attracts industrial exhibitors, making the conference events a significant tool for technology transfer and innovation. The Technical Programme is coordinated by the European Commission, Joint Research Centre - JRC.

ETRA S.p.A

Energia Territorio Risorse Ambientali

Legal head office: Bassano del Grappa (VI), Italy

Administrative head office:

Via del Telarolo, 9 - 35013 Cittadella (PD), Italy

info@etraspa.it / www.etraspa.it



Etra S.p.A. is an entirely publicly owned multiutility that manages the integrated water system, waste service and other services in the River Brenta basin, spreading from the Asiago Plateau to the Euganean hills, including the Bassano area, the Upper Padova Region and Padova's urban belt. The company is the result of an aggregation process between three companies that were previously active in the area. Main company shareholders are 75 Municipalities of the territory in question. The main corporate bodies are the Shareholders' Assembly and the Board of Directors. The company offers Local Authorities and citizens a structure consisting of over 600 employees that can count on the extensive experience in the field of public services of the three founding companies.

GITISA - Italian Group of Environmental Sanitary Engineering

President: raffaello.cossu@unipd.it

Information: info@gitisa.it / francesca.malpei@polimi.it



The scientific community of Environmental and Sanitary Engineering University Professors, who currently make up GITISA, a non-profit association founded in 2008, aims at promoting and coordinating the development of the ICAR03 scientific disciplinary sector.

The latter consists of 92 members, ranging from Full and Associate Professors to Researchers. In full compliance with current regulations, GITISA develops the criteria for the scientific selection of Professors, attends to the organization of scientific meetings, encourages networking between Italian and International research groups and stimulates coordination among the over 25 Italian Universities where courses of Environmental and Sanitary Engineering are taught.

IFAS - Consultants for Waste Management

R. Stegmann und Partner

Schellerdamm 19-21; D - 21079 Hamburg, Germany

Tel. +49 040 7711 0741 / Fax +49 040 7711 0743

info@ifas-hamburg.de



The Consultancy for Waste Management, Prof. R. Stegmann und Partner (IFAS) offers advice and expertises as well as project management, plant- and operation-optimization in the entire field of solid waste, contaminated sites and waste air. A special area is the remediation and aftercare of landfills in order to achieve rapid stabilization (in situ moisturing of the landfill body; in situ aeration and controlled treatment of the off-gases; alternative tailor made surface capping systems)

Due to the long term international scientific and technical experiences and activities from Prof. Dr.-Ing. Rainer Stegmann and his partners in the field of waste management and contaminated sites a high level of competence has been built up. This can be documented on a large number of publications, completed research projects, expertises and organized conferences and workshops.

The Consultancy for Waste Management is part of a national and international network of consultancies for environmental technology. Due to the interdisciplinary cooperation within this network the specific partners can offer a broad spectrum of services in the field of environmental technology and especially solid waste management at a high professional level.

IRECO S.r.l.

Legal head office:

Via dell'Artigianato, 6 - 09122 Cagliari, Italy

Operational head office:

Località Cannamenda, Zona Industriale - 09039 Villacidro, Italy

Tel. +39 070 3329500 / Fax +39 070 3326954

ireco@irecosrl.it / www.irecosrl.it



The Ireco Company was born with the partnership between two leader companies in waste management, Ecoserdiana S.p.A. and Ireos S.p.A, working for several years in environmental activities. After years of close activity, in order to achieve lofty results in the areas of reclamation and disposal of hazardous and non hazardous waste, the two Companies agree to make a harmonious relationship between territory, industry and the environment, taking over a waste storage.

The activity of the Ireco Company is developed in the industrial area of Villacidro (VS) and it's allowed a waste storage for a maximum of 400 tons on time.

In the IRECO waste storage are permitted hazardous and non hazardous waste such as:

- waste from agriculture and agro-industrial
- waste resulting from demolition, construction, excavation activities
- waste from industrial processing
- waste from craftsmanship activities
- waste from commercial activities
- waste from service activities
- waste from reclamation of polluted areas
- waste from sites contaminated with asbestos containing material

IWWG - International Waste Working Group

Marco Ritzkowski c/o Hamburg University of Technology
Harburger Schlosstr. 36 20179 Hamburg, Germany
Tel. +49 040 428 78 20 53 / Fax +49 040 428 78 23 75
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The International Waste Working Group, founded in 2002 and registered as a no-profit organisation, serves as a forum for the scientific and professional community. 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. The group was conceived to provide a “home” for professionals and researchers, and give us a voice to be able to beneficially influence waste management and research.

PAUL WURTH ITALIA S.p.A

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PAUL WURTH
I T A L I A S . P . A .

Paul Wurth Italia S.p.A (PWIT) is an engineering company, making plants also on “turn-key” basis mainly in the field of iron making (blast furnace, coke ovens, sinter plant). With the purpose to diversify its own market, in 2010 PWIT got from Nippon Steel & Sumikin Engineering the licence for making in Italy DMS (Direct Melting System) plants, based on a gasification technology for the thermal treatment of MSW. This technology has a lot of references (41 plants in operation or under construction) in Japan and Korea.

REMTECH Expo

Silvia Paparella, Project Manager
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spaparella@ferrarafiere.it



REMTECH2013
REMEDIATION TECHNOLOGIES
18-19-20 Settembre September, 18-19-20

Ferrara Fiere Congressi S.r.l. Via della Fiera, 11 - 44124 Ferrara, Italy
Tel. +39 0532 900713 / Fax +39 0532 976997 / www.ferrarafiere.it

RemTech Expo is the most specialized event in Italy dedicated to remediation technologies and territory requalification. Companies, public administrations, associations, industry, real-estate, oil sector, research and universities: these are the worlds which RemTech referred to. The very qualified exhibition area, to give specialized societies the most qualified window, is accompanied by high level conferences, training courses for operators, authorities and decision makers, pilot tests and outdoor demonstrations, foreign delegations representative of the principal buyers, focuses on innovative technologies field, degree and Ph.D. awards, and special awards.

A particular attention is given to sector of demolitions and reuse of materials, with INERTIA, and to coastal protection, theme debated during the special section Coast Expo.

RIVERSO S.r.l.

Legal head office:

Via Barcellona, 2 - 09100 Cagliari, Italy

Controlled landfill:

località Serra Scirieddus

Tel. +39 0781 21368 / Fax +39 0781 21369

info@ecodump-riverso.it / www.ecodump-riverso.it



One of the biggest controlled landfills in Sardinia was set up in 2001 over an old disused mine, close to the area of Serra Scirieddus, Barega, which lies in the countryside around Carbonia.

The total landfill capacity for industrial waste is about 1.520,000 mc.

Once completed, it will enable it to restore pre-existing landscape lines and withal to resolve the problem of disposal waste.

With over 20 staff, machines, lorries and other types of specialised vehicles, the company works daily to reduce pollution and make the environment a better place to live in.

The RIVERSO S.r.l. (Ltd) Company has since implemented a System of Environmental Management. It holds the Certificate UNI EN ISO 14001:2004.

SEP

*Padovafiere Spa,
commercial dep.*

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cristiana.bertero@padovafiere.it / denise.muraro@padovafiere.it



SEP is the Italian exhibition focused on technologies and systems for waste and water management, energy efficiency, sustainable mobility, environmental protection.

These themes, main focus of the European guidelines for the development of an industrial management green economy oriented, are object of exhibition, study, meetings, debates in this new edition of SEP, from 19 to 22 march, 2013.

SEP returns in the renewed edition 2013, sparkling container for companies and new technologies, actual contents, different approaches presentation, cultural exchange and proactive comparison between different approaches on the environmental management on an international scale.

SPINOFF S.r.l.

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Operational head office

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info@spinoffsr.com / www.spinoffsr.com



Spinoff Srl is a company promoted and participated by the University of Padova, working in the field of engineering and environmental consulting. Spinoff offers solutions and technical support for the remediation of old landfills, the reduction of long term environmental impact and sustainable aftercare of landfills.

Spinoff promotes scientific research through all its activities with the aim of developing new technologies and providing technical solutions for specific problems. Spinoff holds the "Airflow" patent, technology for the remediation of landfills through in situ aeration.

TECAM S.r.l.

Via San Marco 11/C - 35129 Padova, Italy

Tel. 049 8070650

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TECAM designs and realizes plants for treatment of primary and waste waters of different industrial fields (between that chemical and pharmaceutical, painting, plating, mechanical industry), of landfill leachate and digestate.

TECAM, that has installed hundreds of plants worldwide, is able to propose the best chemical, physical and biological technologies for treatment of each kind of wastewaters, on the basis of a careful evaluation of relation between costs and benefits of investment.

TUHH Hamburg University of Technology

Kerstin Kuchta

Institute of Environmental Technology and Energy Economics

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The Institute for Environmental technics and energy economics located at the technical university Hamburg deals with climate friendly energy technics, integrated biotechnology and process engineering. In detail these topics are: systemanalysis and assesments as well as economic aspects in processes to generate fossil and renewable energy and in the field of waste resource management.

The institute is equipped with various laboratories for emission control, odour management and landfill monitoring. Furthermore intensive research on recovery of rare earth metals and utilization of E-waste have been established at the institute.

UNIVERSITY OF PADOVA

Raffaello Cossu

Chairman of the Environmental Engineering Programme
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Daniela Riccardi

Educational Manager of the Environmental Engineering Programme
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ICEA Department, University of Padova
Via Loredan, 20 - 35131 Padova, Italy



The University of Padova, founded in 1222, is one of the oldest universities in the world. The most famous among its professors was Galileo Galilei while Nicolaus Copernicus was undoubtedly one of its most brilliant students.

The University of Padova offers a two-year M.Sc. Programme in Environmental Engineering and welcomes applications from international students wishing to study environmental science and engineering at an advanced technical level together with Italian students. Lectures are in English only.

VIROTEC S.r.l

Legal head office: Via Dell'Artigianato,6 - Cagliari, Italy
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info@virotecitalia.com / www.virotecitalia.com



Virotec Italy S.R.L is the licensee for Italy of environmental technologies of Virotec Bauxsol products.

The Virotec Italia Srl is connected to Virotec International Ltd, Australian company that operates in the field of environmental remediation with BAUXSOL™ technology. The company has a laboratory in Sordiana (CA) for testing and development of treatment and rehabilitation.

The company carries out intensive development and innovation in the field of environmental remediation, collaborating with universities, research centres and industrial companies.

The Quality management system of Virotec Italy is certified according to ISO9001: 2008.

WATERLEAU

Radioweg 18, B-3020 Belgium
Tel. +32 16 650 657/ Fax +32 16 650 663
info@waterleau.com / www.waterleau.com



Waterleau's mission is to protect the four elements. Waterleau is a turn-key provider of environmental solutions for the industry and municipalities. It has built more than 1000 references around the globe for WATER treatment, AIR treatment, WASTE treatment and for ENERGY recovery applications. It has built more than 350 projects in Anaerobic Digestion and offers an AD product range for all types of wastewater and bio solids. Waterleau has built and operates a state-of-the art Wet AD plant capable of turning 120.000 tons of biomass into green energy (3MWe), including a post treatment of the digestate, turning it into fertilizer or compost.



INSTRUCTIONS FOR CHAIRMEN & SPEAKERS / ISTRUZIONI PER PRESIDENTI DI SESSIONE E RELATORI

Instruction for Chairmen of Sessions

On arrival at the Symposium venue Chairmen of oral sessions and workshops are kindly requested to contact the Speakers' Room where curricula vitae of Speakers will be provided and any last-minute changes in the programme of the session to be chaired will be notified.

Fifteen minutes prior to start of the sessions, Chairmen should report to the conference room where the session will take place to meet the speakers.

Chairmen are furthermore requested to ensure that all Speakers remain seated at the table throughout the entire session and that the timetable is strictly adhered to. This aspect is of extreme importance in order to allow delegates to schedule their attendance in the parallel sessions.

Istruzioni per i Presidenti di sessione

I Presidenti delle sessioni orali e workshop sono gentilmente pregati di contattare la Sala Relatori al loro arrivo presso la sede del Simposio affinché vengano forniti loro i curricula vitae dei relatori e vengano comunicate eventuali modifiche al programma della sessione che dovranno presiedere.

Quindici minuti prima dell'inizio delle rispettive sessioni i Presidenti si presenteranno presso la sala dove si svolge la sessione per prendere contatto con i relatori.

I Presidenti di sessione sono inoltre pregati di adoperarsi affinché nessuno dei relatori abbandoni la sala prima della conclusione della sessione e che venga rispettata la tempistica prevista. Quest'ultimo aspetto è di particolare importanza al fine di consentire ai partecipanti di seguire le relazioni di loro interesse nelle sessioni parallele.

Information for Speakers

Speakers should contact the chairman 15 minutes before the beginning of the session in which their paper is to be presented. The chairman will be available in the conference hall where the session is to take place. Speakers should be present at the conference table from the beginning of the session and remain for the entire duration.

The time available for each presentation is approximately 15 minutes. Chairmen will ensure that times are strictly adhered to. During the presentation commercial advertising should be avoided. Mention of affiliations or company name should be very discreet.

A duty member in the Speakers' Room will be on hand for all requirements. A PC will be available for speakers use and priority will be given in line with session timetable. The computer in the speakers' room may not be used to prepare the presentation, but only to make last-minute changes or a final check.

Speakers who have not forwarded a copy of their PowerPoint presentation to the Organising Secretariat prior to the conference are kindly requested to contact the Speakers' Room at the latest by the session prior to that in which their presentation is scheduled

(should this be scheduled in a morning session, the deadline for contacting the Speakers' Room is the evening of the day before). Speakers should ensure their presentations are delivered to the pertinent conference staff in a timely manner. No additional time will be provided for late arrival presentations.

If your allotted time runs out, do not under any circumstances hurry to finish the entire presentation but go straight to the conclusions. To this regard, it may be of use to prepare a slide illustrating the conclusions in a synthesized version.

The poster session will be held in one of the side rooms the Palazzina Grecale. On arrival in the Poster Hall, all authors should check the exact position assigned to their poster. The Staff at the Registration Desk will be pleased to provide assistance and fixing materials.

Informazioni per i Relatori

I Relatori dovranno contattare il Presidente della sessione durante la quale presenteranno la loro relazione almeno 15 minuti prima dell'inizio della stessa nella sala conferenze di riferimento. Gli autori dovranno essere presenti al tavolo della conferenza dall'inizio della sessione e rimanervi per tutta la durata della stessa.

Il tempo a disposizione per ciascuna presentazione è di circa 15 minuti. Il Presidente di sessione provvederà affinché tale limite sia strettamente osservato. Nella presentazione va assolutamente evitata qualsiasi forma di pubblicità. La presenza del vostro ente o ditta di appartenenza deve essere molto discreta.

Nella Sala Relatori sarà sempre presente un incaricato dell'organizzazione per fornire eventuale assistenza. Un computer sarà a disposizione dei relatori con precedenza che rispetta gli orari della sessione di presentazione. Non sarà possibile utilizzare il computer della sala relatori per preparare le relazioni, ma solo per apportare piccole modifiche e per un controllo finale.

I Relatori che non hanno inviato una copia della loro presentazione PowerPoint alla Segreteria Organizzativa prima del Simposio sono cortesemente pregati di recarsi nella sala relatori non oltre la sessione precedente a quella in cui devono presentare la loro relazione (se si tratta di una sessione in programma per la mattina, il termine ultimo per contattare la Sala Relatori sarà la sera prima). I relatori dovranno assicurarsi che la loro presentazione sia consegnata allo staff di riferimento secondo le tempistiche indicate in quanto non sarà possibile garantire tempo supplementare agli autori le cui presentazioni non saranno pervenute per tempo.

Durante la comunicazione orale, nel caso stia per terminare il tempo a disposizione, non accelerare per esporre il resto della relazione ma passare direttamente alle conclusioni. A tal proposito, potrebbe rivelarsi utile preparare una slide che sintetizzi le conclusioni.

La sessione poster si terrà in una sala laterale della Palazzina Grecale.

Gli autori sono pregati di controllare l'esatta ubicazione assegnata al loro poster sulla mappa a disposizione nella Sala Poster. Lo staff al banco registrazioni sarà a disposizione in caso di necessità.

USEFUL INFORMATION / INFORMAZIONI UTILI

What is included in your registration

- Participation in Symposium sessions
- CD of Proceedings
- Conference materials
- Coffee breaks
- Light working lunches
- Guided technical tours - transport and lunch included
- Wi-Fi Internet access - please collect your password from the Registration Desk

Cosa è incluso nella vostra iscrizione

- *Partecipazione alle sessioni del Simposio*
- *CD degli Atti*
- *Materiale congressuale*
- *Coffee breaks*
- *Pranzi di lavoro*
- *Visite tecniche guidate - trasporto e pranzo inclusi*
- *Accesso Internet Wi-Fi - si prega di richiedere la password al Banco RegISTRAZIONI*

Services on the Island

All Symposium delegates will have access to the following: daily collection of mail, bar (8am - 7pm), self-service restaurant (7:30am - 10am, 12:30pm - 2:30pm, 7pm - 9pm) offering a wholesome breakfast for € 6,50 and lunch/dinner for €10 (pasta dish, main dish, side order, dessert or fruit, beverages).

San Servolo cards are for sale at €5 at the Island Reception. The card is valid for a year and offers, in addition to free Internet access in guest rooms (also included in Symposium registration fee), a series of advantages throughout Venice (discounted entrances to museums, exhibitions, theatres, cinemas, foundations, restaurants and shops etc.).

Servizi offerti

Tutti i partecipanti al Simposio potranno usufruire dei seguenti servizi: ritiro posta giornaliero, bar (8:00 - 19:00), ristorante self-service (7:30 - 10:00, 12:30 - 14:30, 19:00 - 21:00) che offre una colazione completa per € 6,50 e pranzo/cena per €10 (primo, secondo, contorno, frutta o dessert, bevande).

Presso la reception dell'isola è possibile acquistare la San Servolo card al costo di € 5,00. La carta è valida per un anno ed offre agli ospiti dell'isola, oltre all'accesso libero ad internet dalla propria stanza (già compreso nella quota d'iscrizione al Simposio), una serie di convenzioni e agevolazioni presso numerose strutture e servizi a Venezia (tariffe agevolate e sconti presso musei, mostre, fondazioni, teatri, cinema, ristoranti, negozi ecc.).

Transport

San Servolo is connected to San Zaccaria “Monumento”, the waterfront adjacent to St Mark’s Square, in front of the Londra Palace Hotel, by ACTV vaporetto boat route 20. Journey lasts around 10 minutes with departures scheduled according to the timetable below:

San Zaccaria - San Servolo

6:55 - 7:15 - 8:15 - 8:35 - 9:00 - 9:20 - 9:50 - 10:30 - 11:10 - 11:50 - 12:30 - 13:10 - 13:50 - 14:30 - 15:10 - 15:50 - 16:30 - 17:10 - 17:50 - 18:30 - 19:10 - 19:50 - 20:30 - 21:30 - 22:30 - 23:30 - 0:25 - 1:30 - 2:10 (on request only, if booked at least 20 minutes in advance by calling 800845065)

San Servolo - San Zaccaria

7:05 - 7:35 - 8:35 - 8:45 - 9:10 - 9:40 - 10:00 - 10:50 - 11:20 - 12:10 - 12:40 - 13:30 - 14:00 - 14:50 - 15:30 - 16:00 - 16:50 - 17:30 - 18:00 - 18:50 - 19:20 - 20:10 - 20:40 - 21:50 - 22:40 - 23:40 - 0:35 - 1:40 - 2:20 (on request only, if booked at least 20 minutes in advance by calling 800845065)

Trasporti

L'isola di San Servolo è facilmente raggiungibile con il servizio di trasporto pubblico ACTV, utilizzando la linea 20 in partenza dalla fermata San Zaccaria “Monumento”, sulla banchina adiacente a Piazza San Marco, di fronte all'hotel Londra Palace. Il tragitto dura circa 10 minuti con partenze scandite secondo i seguenti orari:

San Zaccaria - San Servolo

6:55 - 7:15 - 8:15 - 8:35 - 9:00 - 9:20 - 9:50 - 10:30 - 11:10 - 11:50 - 12:30 - 13:10 - 13:50 - 14:30 - 15:10 - 15:50 - 16:30 - 17:10 - 17:50 - 18:30 - 19:10 - 19:50 - 20:30 - 21:30 - 22:30 - 23:30 - 0:25 - 1:30 - 2:10 (solo per richieste effettuate con almeno 20 minuti di anticipo, chiamando il numero 800845065)

San Servolo - San Zaccaria

7:05 - 7:35 - 8:35 - 8:45 - 9:10 - 9:40 - 10:00 - 10:50 - 11:20 - 12:10 - 12:40 - 13:30 - 14:00 - 14:50 - 15:30 - 16:00 - 16:50 - 17:30 - 18:00 - 18:50 - 19:20 - 20:10 - 20:40 - 21:50 - 22:40 - 23:40 - 0:35 - 1:40 - 2:20 (solo per richieste effettuate con almeno 20 minuti di anticipo, chiamando il numero 800845065)