

5th International Conference »» 13th to 15th of Sept. 2006
Weimar, Germany

ORBIT 2006

Biological Waste Management
»» From Local to Global

under Patronage of **Sigmar Gabriel**
German Federal Minister for the Environment,
Nature Conservation and Nuclear Safety

ORBIT
ASSOCIATION

**Bauhaus-Universität
Weimar**



Arbeitskreis für die Nutzbarmachung
von Siedlungsabfällen e.V.
Träger öffentlicher Belange

Scientific Committee

The Scientific Committee of the ORBIT 2006 conference is composed of leading specialists from all over the world.

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J. Magid, Ass. Prof., Ph.D.	Denmark
S. Nortcliff, Prof.	United Kingdom
M. Prasad, B. Sc., M.A., Ph.D.	Ireland
M. Seck, Prof. Dr.	Senegal
A. Silveira, Prof.	Portugal
R. Stegmann, Prof. Dr.-Ing.	Germany
E. Stentiford, Prof.	United Kingdom
C. Visvanathan, Prof., Ph.D.	Thailand
R. Widmann, Prof. Dr.-Ing.	Germany

Welcome to ORBIT 2006

ORBIT 2006, a major step into the realm of organic materials of this world; the organic materials that for a long time have been regarded only as a cumbersome residue, as waste.

Organic materials outgrow this shadowy existence in the light of devastations, demand for renewable energies, unequal distribution of nutrients and the demand for renewable resources.

Following the tradition of its predecessors, ORBIT 2006 will deal intensively with the biomass resource. The traditional subjects of composting and anaerobic digestion will be presented together with various matters dealing with technology and product quality. The new aspect will include addressing the complex issues of sustainable energy recovery from biomass and the need for a strategy for the preservation of the humus content world-wide, especially in the endangered zones with devastation tendencies.

While the scientific discussion and the presentation of the newest research findings are in the foreground of the ORBIT conference the involvement of the Compost Quality Assurance Organisation (BGK), and the Work Group for Utilisation of Municipal Waste (ANS) in ORBIT 2006 will guarantee the linkage to political and professional daily life. It will provide the opportunity for incorporating topics, such as mechanical-biological technology, biomass use and compost quality assurance, by integrating parallel sessions from the ANS and the BGK. The ECN, a special group of ORBIT Association, in particular will provide and present European experience.

High technology on the one side and the demand for affordable primary technologies on the other side. The traditionally well-attended session "Technologies for Developing Countries" will be again included in the programme and will be organised by Luis F. Diaz.

For the first time the ORBIT takes place in co-ordination with the JORA and the SARDINIA conferences. A step towards more expertise and world-wide impact. The Bauhaus University Weimar, Germany, will be the host for the ORBIT 2006. We, the organisers, are very glad to welcome you to the next ORBIT in September 2006 in Weimar and we promise you an interesting programme and many stimulating discussions.



Prof. Dr.-Ing. habil. W. Bidlingmaier
President ORBIT 2006

September, 13th 2006

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**1301**

10:00 am – 12:00 pm

Opening Session*Page 11***1301****Opening Session***Page 11*

LUNCH BREAK

LUNCH BREAK

13A1

1:30 pm – 3:30 pm

**Composting –
Benefit of Organic
Matter***Page 12***13B1****Developing
Countries –
Technical Solutions***Page 14***13C1****Challenge Sludge***Page 16***13D1****Composting –
Suppressing
Pathogens-
Sanitation***Page 18***13ANS1****Waste/Resource
Management***Page 20*

COFFEE-BREAK

COFFEE-BREAK

13A2

4:00 pm – 5:40 pm

Innovative Landfill*Page 13***13B2****Developing
Countries –
Waste Management
Strategies***Page 15***13C2****Challenge Sludge
and Innovation***Page 17***13D2****Odour Emission***Page 19***13ANS2****MBT***Page 21***13CT1**

7:00 pm – 11:00 pm

Chimney Talk*Page 22***13CT1****Chimney Talk***Page 22*

September, 14th 2006

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	14A1	14B1	14C1	14D1	14ANS1
8:30 am – 9:30 am	Good Practice <i>Page 23</i>	Composting – Analytical Methods <i>Page 27</i>	Bioplastics <i>Page 31</i>	Compost – Quality and Application <i>Page 35</i>	MBT <i>Page 40</i>

COFFEE-BREAK

COFFEE-BREAK

	14A2	14B2	14C2	14D2	14ANS2
10:00 am – 12:00 pm	Developing Countries – Waste Management <i>Page 23</i>	Composting Strategies and Technical Solution <i>Page 28</i>	Anaerobic Digestion – Innovation and Processing <i>Page 32</i>	Compost – Quality and Application <i>Page 36</i>	MBT <i>Page 41</i>

LUNCH BREAK

LUNCH BREAK

	14A3	14B3	14C3	14D3	14BGK3
1:30 pm – 3:30 pm	Innovative Technology <i>Page 24</i>	Municipal Solid Waste <i>Page 29</i>	Anaerobic Digestion – Modelling and Controlling <i>Page 33</i>	Pollution <i>Page 37</i>	Humus Day <i>Page 42</i>

COFFEE-BREAK

COFFEE-BREAK

	14A4	14B4	14C4	14D4	14BGK4
4:00 pm – 5:40 pm	Developing Countries – Practising Organic Recycling <i>Page 26</i>	Application Soil <i>Page 30</i>	Anaerobic Digestion – Modelling and Controlling <i>Page 34</i>	Life Cycle Analysis and Global Aspects <i>Page 38</i>	Humus Day <i>Page 43</i>

14CD1**14CD1**

7:00 pm – 11:00 pm	Conference Dinner <i>Page 44</i>			Conference Dinner <i>Page 44</i>	
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September, 15th 2006

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	15A1	15B1	15C1	15D1	15ANS1
8:30 am – 9:30 am	Developing Countries – Education <i>Page 45</i>	Policy and Strategy <i>Page 48</i>	Composting – Analytical Methods <i>Page 50</i>	Miscellaneous Waste <i>Page 54</i>	Technology Transfer – Biomass use <i>Page 57</i>

COFFEE-BREAK

COFFEE-BREAK

	15A2	15B2	15C2	15D2	15ANS2
10:00 am – 12:00 pm	Composting Strategies and Technical Solution <i>Page 45</i>	Policy and Strategy <i>Page 48</i>	Composting – Processing <i>Page 51</i>	Renewable Energy <i>Page 55</i>	Technology Transfer – Biomass use <i>Page 58</i>

LUNCH BREAK

LUNCH BREAK

	15A3	15B3	15C3	15D3
1:30 pm – 3:30 pm	Composting – Analytical Methods <i>Page 46</i>	Policy and Strategy <i>Page 49</i>	Composting – Modelling <i>Page 52</i>	Renewable Energy <i>Page 56</i>

COFFEE-BREAK

COFFEE-BREAK

	15A4	15C4	15D4
4:00 pm – 5:00 pm	Composting <i>Page 47</i>	Composting – Characterisation and Processing <i>Page 53</i>	Renewable Energy <i>Page 57</i>

	15PS1
5:00 pm – 5:40 pm	Plenary Session <i>Page 59</i>

	15PS1
	Plenary Session <i>Page 59</i>

SESSION 1301**Opening Session**

Chairman: Prof. Dr.-Ing. habil. W. Bidlingmaier,
Bauhaus-Universität Weimar

10:00 am – 12:00 am

**„ABFALL- UND RESSOURCENWIRTSCHAFT VOR DEM
HINTERGRUND DER GLOBALISIERUNG“
“WASTE AND RESOURCE MANAGEMENT UNDER THE
SPOT LIGHT OF GLOBALISATION”**

Minister Dr. Sklenar

Freistaat Thüringen, Ministerium für Landwirtschaft, Naturschutz
und Umwelt, *State of Thuringia, Ministry of Agriculture, Conservation
and Environment*

RDir. Dr. C. Bergs

Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit
(BMU), *Federal Ministry for the Environment, Nature Conservation
and Nuclear Safety*

Prof. Dr.-Ing. G. Zimmermann

Rektor der Bauhaus-Universität Weimar, *Rector of the Bauhaus-
Universität Weimar*

Prof. Dr. K. Fricke

Vorsitzender des Arbeitskreises zur Nutzbarmachung von
Siedlungsabfällen (ANS), *Chairman of the Working Group for the
Utilization of Munciple Solid Waste (ANS)*

A. Oechtering

Vorsitzender der Bundesgütegemeinschaft Kompost (BGK),
*Chairman of the Federal Community for Quality Assurance of
Compost (BGK)*

Prof. Dr. agr. M. Chino

Mitglied des Arbeitskreises Japan Organics Recycling Association
(JORA), *Representative of the Working Group for the Japan Organics
Recycling Association (JORA)*

Prof. Dr.-Ing. habil W. Bidlingmaier

Vorsitzender des Arbeitskreises Organic Recovery and Treatment
(ORBIT), *Chairman of the Working Group for the Organic Recovery
and Treatment (ORBIT)*

SESSION 13A1**Composting – Benefit of Organic Matter**

Chairman: Prof. M. de Bertoldi, University of Udine

1:30 pm – 1:50 pm | Paper No.: 185

**RECOVERY OF PHOSPHORUS AND NITROGEN FROM
ENERGY RECOVERED SWINE WASTE**

Anton Perera, Technische Universität München | Wu Weixiang |
Chen Yin Xu

1:50 pm – 2:10 pm | Paper No.: 178

**PRODUCTION OF HIGH QUALITY COMPOSTS FROM
FOOD INDUSTRY RESIDUES AND BY-PRODUCTS FOR
FERTILISATION OF ORGANIC FARMING GROWN VEGETA-
BLES AND OLIVE TREES**

Ana Cristina Cunha-Queda, Instituto Superior de Agronomia,
Lisbon – Portugal | Cristina Silva, Departamento de Química
Agrícola e Ambiental, Instituto Superior de Agronomia | Albino
Cordeiro, Instituto Superior de Agronomia, Lisbon – Portugal |
Ana Teodoro, Instituto Superior de Agronomia, Lisbon – Portugal |
Marie Christine Morais, Instituto Superior de Agronomia, Lisbon –
Portugal | Jorge Ferreira, Agro-Sanus, Lisbon – Portugal | Marco
Nunes, Agro-Sanus, Lisbon – Portugal | Dulce Coelho, Iberian
Salads, Odemira – Portugal | Hendrick Lieuwe Wiersma, Iberian
Salads, Odemira – Portugal | João Correia de Oliveira, Viaz, Torre
de Moncorvo – Portugal | Joana Brandão de Menezes, Viaz, Torre
de Moncorvo – Portugal

2:10 pm – 2:30 pm | Paper No.: 49

**CONTAMINANTS AND FERTILIZERS – AN ASSESSMENT
CONCEPT**

Ines Vogel, Federal Evironmental Agency | Claus Gerhard Bannick,
Federal Evironmental Agency

2:30 pm – 2:50 pm | Paper No.: 181

INDICATORS TO EVALUATE THE EFFECT OF EXOGENOUS ORGANIC MATTERS ON BIOGEOCHEMICAL CYCLES OF C AND N IN SOILS

Gwenaëlle Lashermes, French National Institute for Agricultural Research (INRA) | Sabine Houot, INRA, Environment and Arable Crops | Bernard Nicolardot, French National Institute for Agricultural Research | Bruno Mary, French National Institute for Agricultural Research | Virginie Parnaudeau, French National Institute for Agricultural Research | Thierry Morvan, French National Institute for Agricultural Research | Monique Linères, French National Institute for Agricultural Research | Laure Metzger, RITMO | Laurent Thuriès, Phalippou-Frayssinet | Christine Villette, LDAR | Antoine Triacud, SAS | Marie-Laure Guillotin, LCA

2:50 pm – 3:10 pm | Paper No.: 134

CONTRIBUTION OF LIGNIN TOWARDS THE BUILD UP OF HUMIC SUBSTANCES – A NEW STRATEGY FOR MARKETABLE HIGH QUALITY COMPOSTS

Katharina Meissl, BOKU-University of Natural Resources and Applied Life Sciences, Vienna | Ena Smidt, BOKU-University of Natural Resources and Applied Life Sciences, Vienna

3:10 pm – 3:30 pm | Paper No.: 35

COMPOSTING NITROGENOUS WASTES WITH MAGNESIUM TO PRODUCE ARTIFICIAL GUANO

Charles Weiss, USACE Engineer Research & Development Center | David Ringelberg, USACE Engineer Research & Development Center | Philip Malone, USACE Engineer Research & Development Center | G. Panicker

SESSION 13A2

Innovative Landfill

Chairman: Prof. Dr.-Ing. R. Cossu, University of Padua

4:00 pm – 4:20 pm | Paper No.: 61

BIOLOGICAL OXIDATION OF POOR LANDFILL GAS IN AERATED BIOFILTER SYSTEMS WITH HIGH INPUT CONCENTRATION

Roland Haubrichs, AGR GmbH, Essen, Germany | Renatus Widmann, Universität Duisburg-Essen
Abfallwirtschaft/Abfalltechnik

4:20 pm – 4:40 pm | Paper No.: 52

LANDFILL OPERATION AND CONTROL WITH HELP OF MULTI-DIMENSIONAL PREDICTIVE MODELING – ORGANIC MASS TRANSITION AND GAS GENERATION

Veronika Ustohalova, University of Duisburg-Essen | Renatus Widmann, Universität Duisburg-Essen
Abfallwirtschaft/Abfalltechnik

4:40 pm – 5:00 pm | Paper No.: 245

POST CLOSURE UTILISATION OF LANDFILL-SITES BY CULTIVATION OF ENERGY CROPS AND THE USE OF BIOMASS UNDER NATURE CONSERVATION PRINCIPLES

Kai Hillebrecht, Technical University of Braunschweig,
Department of Waste Management

5:00 pm – 5:20 pm | Paper No.: 246

CONSEQUENCES OF THE PRE-TREATMENT OF MUNICIPAL SOLID WASTE ON THE LANDFILL OPERATION AND LANDFILL CONSTRUCTION

Jan Bauer, Technische Universität Braunschweig | Kai Münnich, Technische Universität Braunschweig | Klaus Fricke, TU Braunschweig

SESSION 13B1

Developing Countries – Technical Solutions

Chairman: Prof. E. Stentiford, University of Leeds

1:30 pm – 1:50 pm | Paper No.: 226

APPROPRIATE BIOLOGICAL TREATMENT OF SOLID WASTES FOR DEVELOPING COUNTRIES

Luis Diaz, CalRecovery Inc. | G.M. Savage, CalRecovery, Inc. | Linda Eggerth, CalRecovery, Inc.

1:50 pm – 2:10 pm | Paper No.: 140

LOW TECH OPTIONS FOR COMPOSTING POULTRY MANURE IN SOUTH EAST ASIA

Henrich Roeper, TU Hamburg-Harburg | Ina Koerner, TU Hamburg-Harburg | Rainer Stegmann, TU Hamburg Harburg

2:10 pm – 2:30 pm | Paper No.: 53

FACTORS CONSTRAINING AND PROMOTING THE IMPLEMENTATION OF SMALL-SCALE COMPOSTING IN WEST AFRICAN COUNTRIES

Roland Linzner, BOKU University of Natural Resources and Applied Life Sciences, Vienna | Gudrun Wassermann, BOKU University of Natural Resources and Applied Life Sciences

2:30 pm – 2:50 pm | Paper No.: 147

PILOT COMPOSTING PLANT, LAO PDR

Khampha Keomanichanh, Community Development and Environment Association

2:50 pm – 3:10 pm | Paper No.: 110

DECENTRALISED COMPOSTING – ASSESSMENT OF VIABILITY THROUGH COMBINED MATERIAL FLOW ANALYSIS AND COST ACCOUNTING

Silke Drescher, Eawag: Swiss Federal Institute of Aquatic Science and Technology (Sandec) | Christian Müller, Swiss Federal Institute of Technology, Zürich | Tedros Kubrom, University College of Agriculture, Asmara | Sirak Mehari, University College of Agriculture, Asmara | Christian Zurbrügg, Eawag: Swiss Federal Institute of Aquatic Science and Technology (Sandec) | Susanne Kytzia, Swiss Federal Institute of Technology, Zürich (IRL)

3:10 pm – 3:30 pm | Paper No.: 193

FROM WASTE TO RESOURCE TO PRODUCT: RECYCLING OF MUNICIPAL ORGANIC WASTES AND SEWAGE SLUDGE

Chai Gee, Korea Institute of Construction Technology | Young Yoon, Korea Institute of Construction Technology

SESSION 13B2

Developing Countries – Waste Management Strategies

Chairman: Dr. M. Seck, University of Dakar

4:00 pm – 4:20 pm | Paper No.: 47

NEW STRATEGIES FOR THE IMPLEMENTATION OF BIOMASS ENERGY IN SOUTHEAST ASIA

Antje Klauß-Vorreiter, Deutsche Gesellschaft für Sonnenenergie e.V. | Walter Danner, Deutsche Gesellschaft für Sonnenenergie e.V. | Kanoksak Eam-o-pas, Renewable Energy and Environmental Centre | Khampha Keomanichanh, Community Development and Environment Association

4:20 pm – 4:40 pm | Paper No.: 106

TOWARDS AN INTEGRATED SUSTAINABLE WASTE MANAGEMENT FOR PERSISTENT ORGANIC POLLUTANTS (POPS) IN BANGLADESH

Rabindra Bohara, Department of Urban Development and Building Construction, Nepal | Annette Ochs, UNESCO-IHE Institute for Water Education, Delft, Netherlands | Arnold van de Klundert, WASTE Advisors on urban environment & development, Gouda,

Netherlands | Gary Amy, UNESCO-IHE Institute for Water Education, Delft, Netherlands

4:40 pm – 5:00 pm | Paper No.: 136

ROLE OF SCAVENGERS IN SOLID WASTE MANAGEMENT IN HYDERABAD CITY, PAKISTAN

Zuhaib Siddiqui, NED University of Engineering and Technology, Karachi, Pakistan | Atif Mustafa, NED University of Engineering and Technology, Karachi, Pakistan | Saeed Khan, NED University of Engineering and Technology, Karachi, Pakistan

5:00 pm – 5:20 pm | Paper No.: 100

DEVELOPMENT OF MATERIAL-FLOW-ORIENTED CONCEPTS FOR WASTE WATER SYSTEMS BASED ON ZERO EMISSION

Jürgen Stäudel, freelance engineer

SESSION 13C1

Challenge Sludge

Chairman: Dr. Tatsuya Noike, Nihon University

1:30 pm – 1:50 pm | Paper No.: 103

COMPOST FROM SEWAGE SLUDGE – STATUS AND RESULTS OF QUALITY ASSURANCE IN GERMANY

Martin Kranert, Universitaet Stuttgart, Germany | Ingrid Berkner, LAV Landwirtschaftliches Verarbeitungszentrum Markranstaedt GmbH, Germany

1:50 pm – 2:10 pm | Paper No.: 79

ECOLOGICAL AND ECONOMICAL EVALUATION OF VARIOUS SLUDGE DISPOSAL OPTIONS IN NORTH RHINE-WESTPHALIA (GERMANY) – IDENTIFICATION OF OPTIMIZATION POTENTIAL

Jochen Schubert, Universität Duisburg-Essen Abfallwirtschaft/Abfalltechnik | Renu Widmann, Universität Duisburg-Essen Abfallwirtschaft/Abfalltechnik

2:10 pm – 2:30 pm | Paper No.: 91

OPEN-AIR DRYING OF SLUDGE IN BEDS USING SOLAR ENERGY

Hema Rughoonundun, University of Mauritius | S. Toofanee | Yanessa Govind, University of Mauritius | Romeela Mohee, University of Mauritius

2:30 pm – 2:50 pm | Paper No.: 231

POLYHYDROXY ALKANOATE PRODUCTION FROM WASTEWATER SLUDGE

Tutiyaporn Sudajit, Chulalongkorn University | Sudarat Rodsirilawan, Chulalongkorn University | Chawalit Ratanatamskul, Chulalongkorn University | Charnwit Kositanont, Chulalongkorn University

2:50 pm – 3:10 pm | Paper No.: 220

COMPOSTING OF SEPTIC SLUDGE.

Velazquez Aradillas, Universidad Autónoma de Yucatán | Sauri Riancho, Universidad Autónoma de Yucatán | Castillo Borges, Universidad Autónoma de Yucatán | JOSE RAMIREZ Herrera | Victor Alcocer Vidal | Fabiola Estrella May | Cabañas Vargas, Universidad Autónoma de Yucatán

3:10 pm – 3:30 pm | Paper No.: 198

PCB AND AOX REMOVAL IN MESOPHILIC AND THERMOPHILIC ANAEROBIC SEWAGE SLUDGE DIGESTION

Toufik Benabdallah El-Hadj, University of Barcelona | Joan Dosta, University of Barcelona | Ricard Torres, University of Barcelona | Joan Mata-Álvarez, University of Barcelona

SESSION 13C2

Challenge Sludge and Innovation

Chairman: Prof. Dr.-Ing. R. Stegmann, Technische Universität Hamburg-Harburg

4:00 pm – 4:20 pm | Paper No.: 143

15 YEARS OPERATIONAL EXPERIENCE IN THE HUMIFICATION OF SEWAGE SLUDGE IN REED BEDS

Udo Pauly, EKO-PLANT GmbH Neu-Eichenberg | Stefan Rehfus, EKO-PLANT GmbH Neu-Eichenberg | Martin Peitzmeier, EKO-PLANT GmbH Neu-Eichenberg

4:20 pm – 4:40 pm | Paper No.: 71

APPLICATION OF AERATED STATIC PILES COMPOSTING PROCESS FOR TEHRAN SEWAGE SLUDGE STABILIZATION (IRAN)

Mahdi Farzadkia, Assistant Professor

4:40 pm – 5:00 pm | Paper No.: 14

CONCEPTS FOR RENEWABLE RESOURCES AD PLANTS WITH POWER-HEAT COUPLING AND A EXTERNAL HYDROLYSIS UNIT.

Matthias Klauß, BioVAG, Biomasse-Verwertungsagentur |

Walter Danner, Deutsche Gesellschaft für Sonnenenergie e.V. | Jörg Matthes, BioVAG, Biomasse-Verwertungsagentur

5:00 pm – 5:20 pm | Paper No.: 39

3A-BIOGAS; THREE STEP FERMENTATION OF SOLID STATE BIOWASTE FOR BIOGAS PRODUCTION AND SANITATION (WWW.3A-BIOGAS.COM)

Horst Mueller, European Compost Network | Oliver Schmidt | Stephan Hinterberger

SESSION 13D1

Composting Sanitation – Suppressing Pathogens-Sanitation

Chairman: Dr. Werner Philipp, Universität Hohenheim

1:30 pm – 1:50 pm | Paper No.: 78

COMPARISON OF THE PERSISTENCE OF BACTERIAL PATHOGENS DURING COMPOSTING, LIQUID-STORAGE AND PACK STORAGE OF DAIRY AND SWINE MANURES

Frederick C. Michel, The Ohio State University-OARDC | Srinand Srivatsan, University of Minnesota | Sukhbir Grewal, The Ohio State University-OARDC | Rajeev Sreekumari, Ohio Department of Agriculture

1:50 pm – 2:10 pm | Paper No.: 111

ASSESSMENT OF THE DEGREE OF SANITIZATION IN COMPOST BY ANALYSING TEMPERATURE DATA USING A NEW SANITIZATION EQUATION

Martin Idelmann, IGW Ingenieurgesellschaft Witzenhausen Fricke und Turk GmbH | Jon Pickering, Organic Resource Agency Ltd

2:10 pm – 2:30 pm | Paper No.: 217

SANITATION OF RESTAURANT WASTE FOLLOWING EUROPEAN UNION GUIDELINE 1774 / 2002

Karl-Heinz Maier, Supplier of aerobic sanitation units

2:30 pm – 2:50 pm | Paper No.: 62

COMPOSTING SOURCE SEPARATED HUMAN FAECES FOR TREATMENT AND SANITATION

Charles Niwagaba, Department of Civil Engineering, Makerere University, Uganda | Maimuna Nalubega, Department of Civil Engineering, Makerere University, Uganda | Bjorn Vinneras, Swedish University of Agricultural Sciences, Uppsala, Sweden | Cecilia Sundberg, Swedish University of Agricultural Sciences | Hakan Jonsson, Swedish University of Agricultural Sciences, Uppsala, Sweden

2:50 pm – 3:10 pm | Paper No.: 171

INHIBITION OF THE APPLE SCAB PATHOGEN VENTURIA INAEQUALIS AND THE GRAPEWINE DOWNY MILDEW PATHOGEN PLASMOPARA VITICOLA BY EXTRACTS GREEN WASTE COMPOST

Mohamed Larbi, Research institute for organic agriculture(FIBL) | Jean-Michel Gobat, Neuchâtel University | Jacques G Fuchs, research institute of organic agriculture(FIBL)

SESSION 13D2

Odour Emission

Chairman: Assoc. Prof. Hakan Jönsson, Swedish University of Agricultural Sciences

4:00 pm – 4:20 pm | Paper No.: 76

DEODORIZATION OF AIR IN A COMPOST PROCESS BY CARBONATED WATER

Yasuyuki Hirano, Akita Prefectural University | Koichi Takeda, Akita Prefectural University | Naoki Tokumitsu, Akita National College of Technology | Vladimir K. Baev, Institute of Theoretical and Applied Mechanics

4:20 pm – 4:40 pm | Paper No.: 223

ELIMINATION OF NUISANCE ODORS FROM ANAEROBIC DIGESTION BY BIOFILTRATION

Diana Ramirez Saenz, Unidad Profesional Interdisciplinaria de Biotecnología | Sagrario Veyna Castañeda, Unidad Profesional Interdisciplinaria de Biotecnología | Fabian Robles Martinez, Unidad Profesional Interdisciplinaria de Biotecnología | Elvia Ines Garcia Peña, Unidad Profesional Interdisciplinaria de Biotecnología

4:40 pm – 5:00 pm | Paper No.: 69

ODOUR CREATION POTENTIAL ON COMPOSTING SITES

Lynne Bouchy, Suez Environnement | Elena Senante, Suez Environnement | Jean-Luc Martel, Suez Environnement – CIRSEE | Pascal Dauthuille, Suez Environnement

5:00 pm – 5:20 pm | Paper No.: 81

EFFECT OF CO-COMPOSTING FOOD WASTE WITH COAL FLY ASH ON COMPOST DECOMPOSITION AND ODOR EMISSION

Ken Fung, Hong Kong Baptist University | J.W.C. Wong, Hong Kong Baptist University

SESSION 13ANS1

Abfall- und Ressourcenwirtschaft | Waste and Resource Management

Chairman: Prof. Dr.-Ing. Klaus Fricke, Vorsitzender des ANS e.V.

1:30 pm – 1:50 pm | Paper No.: 282

ABFALLWIRTSCHAFT IST KLIMASCHUTZ! | WASTE MANAGEMENT IS CLIMATE PROTECTION!

André Radde, Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit

1:50 pm – 2:10 pm | Paper No.: 283

BIOMASSE-AKTIONSPLAN – ZUKUNFTSAUFGABE FÜR EUROPA, LÄNDER UND KOMMUNEN | BIOMASS ACTION PLAN – TASK FOR THE FUTURE FOR EUROPE, ITS COUNTRIES AND MUNICIPALITIES

Ernst Scheiber, Generalsekretär des Ökosozialen Forums in Österreich

2:10 pm – 2:30 pm | Paper No.: 281

ERNEUERBARE ENERGIEN AUS ABFÄLLEN – CHANCEN FÜR DIE UMGESTALTUNG DER ABFALLWIRTSCHAFT | RENEWABLE ENERGY FROM WASTE – OPPORTUNITIES FOR THE REORGANISATION OF WASTE MANAGEMENT

Bernd Bilitewski, Technische Universität Dresden

2:30 pm – 2:50 pm | Paper No.: 284

AUSWEITUNG DER BIOABFALLERFASSUNG ALS MAßNAHME ZUR LÖSUNG VON KAPAZITÄTSENGPÄSSEN BEI DER RESTABFALLBEHANDLUNG? – ABFABLV UND EEG SCHAFFEN NEUE ANREIZE | EXPANSION OF BIO-WASTE DATA COLLECTION AS A MEASURE FOR A SOLUTION TO CAPACITY SHORTAGES

Michael Kern, Witzenhausen-Institut

2:50 pm – 3:10 pm | Paper No.: 285

EFFIZIENZSTEIGERUNG BEI DER ENERGETISCHEN BIOMASSENUTZUNG | INCREASED EFFICIENCY IN ENERGETIC BIOMASS USE

Martin Faulstich, Mitglied des Sachverständigenrates für Umweltfragen der Bundesregierung

3:10 pm – 3:30 pm | Paper No.: 305

DISKUSSION | DISCUSSION

N.N.

SESSION 13ANS2

Mechanisch-biologische Restabfallbehandlung – 1 Jahr Praxiserfahrungen | Mechanical Biological Treatment of Restwaste – 1 Year of Practical Experience

Chairman: Thomas Grundmann, Vorsitzender ASA e.V.

4:00 pm – 4:20 pm | Paper No.: 304

1 JAHR BETRIEBSERFAHRUNGEN – SACHSTANDSBERICHT MBA | ONE YEAR OF PRACTICAL EXPERIENCE – STATUS QUO REPORT MECHANICAL-BIOLOGICAL PLANTS

n.n. to be announced, Umweltbundesamt

4:20 pm – 4:40 pm | Paper No.: 287

DIE CRUX MIT DEN ABLAGERUNGSKRITERIEN – MAßNAHMEN ZUR OPTIMIERUNG DES STABILISIERUNGSPROZESSES | THE CRUX WITH THE LANDFILL CRITERIA - MEASURES FOR OPTIMISATION OF THE STABILISATION PROCESS

Rainer Stegmann, TU Hamburg Harburg

4:40 pm – 5:00 pm | Paper No.: 288

BETRIEBSERFAHRUNGEN MIT DER ABLUFTBEHANDLUNG NACH 30. BIMSCHV – SCHWACHSTELLENANALYSE UND OPTIMIERUNGSANSÄTZE | OPERATIONAL EXPERIENCE WITH EMISSION TREATMENT ACCORDING TO THE 30TH FEDERAL EMISSIONS CONTROL ORDINANCE – WEAK POINT ANALYSIS

Rainer Wallmann, ANS e.V.

5:00 pm – 5:20 pm | Paper No.: 289

ENTWICKLUNGEN DES BUNDESDEUTSCHEN ABFALLMARKTES NACH DEM 1. JUNI 2005 – MENGEN, PREISE, KAPAZITÄTEN – | EFFECTS OF JUNE 1ST, 2005 ON THE GERMAN DISPOSAL MARKET – PRICES FOR MATERIAL FLOW AND CAPACITIES

Rüdiger Siechau, Vorstandsvorsitzender des Verbandes Kommunale Abfallwirtschaft und Stadtreinigung

5:20 pm – 5:40 pm | Paper No.: 305

DISKUSSION | DISCUSSION

N.N.

SESSION 13CT1

Chimney Talk

Chairman: N. N.

SESSION 14A1**Good Practice**

Chairman: Prof. Dr.-Ing. habil. W. Bidlingmaier, Bauhaus-Universität Weimar

8:30 am – 8:50 am | Paper No.: 99

URBAN COMPOSTING IN SOUTH AFRICA – SUSTAINABILITY ASPECTS

Cecilia Sundberg, Swedish University of Agricultural Sciences | Lotten Ekelund, Uppsala University | Kristina Nyström, Uppsala University | Eric Zinn, Sweco | Håkan Jönsson, Swedish University of Agricultural Sciences

8:50 am – 9:10 am | Paper No.: 43

IMPROVEMENT OF MEDICAL WASTES MANAGEMENT IN UKRAINE

Yana Gomza, National Medical University by O.O. Bogomolets, Kyiv, Ukraine | S. Pasechny, State enterprise scientific medical and pharmaceutical expert center, Kyiv, U | I. Maksyuta, State enterprise scientific medical and pharmaceutical expert center, Kyiv, U | D. Chikirisov, Kyiv National University of Economics. Management and Economy Department, Ukrain

9:10 am – 9:30 am | Paper No.: 227

THE MANAGEMENT OF BIOWASTE IN CALIFORNIA

G.M. Savage, CalRecovery, Inc. | Luis Diaz, CalRecovery Inc. | Linda Eggerth, CalRecovery, Inc.

SESSION 14A2**Developing Countries – Waste Management**

Chairman: Dr. L. F. Díaz, Cal Recovery, Inc.

10:00 am – 10:20 am | Paper No.: 234

DEVELOPMENT OF A MODEL FOR AN INTERGATED URBAN MANAGEMENT PLAN ON EXAMPLE OF THE THAI CITY LAMPHUN

Carola Westphalen, Bauhaus-Universität Weimar | Werner Bidlingmaier, Bauhaus-Universität Weimar | Suraphong Wattanachira, Chiang Mai University | Parpat Poochareon, Lamphun Municipality Office | Sudarat Yooem, Lamphun Municipality Office

10:20 am – 10:40 am | Paper No.: 259

INTEGRATED SOLID WASTE MANAGEMENT PROGRAMME – A SUSTAINED AND PERENNIAL SOLUTION

Priya Salvi, Save Bombay Committee | Kisan Mehta, Save Bombay Committee | Dilip Sankarreddy, Save Bombay Committee

10:40 am – 11:00 am | Paper No.: 56

COMPARING SOLID WASTE COLLECTION SYSTEMS BETWEEN A DEVELOPING COUNTRY AND A DEVELOPED COUNTRY WITH SPECIFIC CONSIDERATION OF PUBLIC PARTICIPATION. A THAILAND – GERMAN CASE STUDY

Orawan Koonsanong, Hauchiew Chalemprakiet University | Eckhard Kraft, Bauhaus-Universität Weimar

11:00 am – 11:20 am | Paper No.: 120

SEPARATE AS YOU COLLECTE MUNICIPAL WASTE

Frank Schweizer, Bauhaus-Universität Weimar

11:20 am – 11:40 am | Paper No.: 158

GUIDELINE DEVELOPMENT ON SOLID WASTE MANAGEMENT IN CAMBODIA.

Kim Heng Chau, COMPED | Phalla Sam | Sethou Soeun | Gunnar Hädrich, Bauhaus-Universität Weimar

11:40 am – 12:00 pm | Paper No.: 24

PILOT RESEARCH ON SOURCE SEPARATION AND UTILISATION OF BIOORGANIC MUNICIPAL WASTE (BMW) IN CHINA

Bernhard Raninger, Hangkong University (SYIAE), Shenyang, China | Werner Bidlingmaier, Bauhaus-Universität Weimar | Rundong Li, Hangkong University, Shenyang, China

SESSION 14A3**Innovative Technology**

Chairman: Prof. Dr.-Ing. R. Widmann, Universität Duisburg-Essen

1:30 pm – 1:50 pm | Paper No.: 224

BIOREMEDIATION OF TRICHLOROETHYLENE CONTAMINATED GROUNDWATER USING ANAEROBIC PROCESS

Juthatip Kajorntraidej, Kasetsart University, bangkok, Thailand | Cheema Chomsurin, Kasetsart University, bangkok, Thailand

1:50 pm – 2:10 pm | Paper No.: 201

SYSTEMATIC DESIGN OF A MIXING AND TRANSPORTING ROBOT FOR SOLAR DRYING OF BIOGENOUS RESIDUALS

Nikica Starcevic, Universität Hohenheim, Institut für Agrartechnik | Markus Bux, Universität Hohenheim, Institut für Agrartechnik | Joachim Müller

2:10 pm – 2:30 pm | Paper No.: 50

BIOLOGICAL DRYING OF BIOWASTE TO GENERATE BIOMASS

Joachim Dach, BjörnSEN Beratende Ingenieure GmbH | Sebastian Bode, Bjoernsen Beratende Ingenieure GmbH

2:30 pm – 2:50 pm | Paper No.: 55

FEASIBILITY STUDY FOR A PHOTOBIOREACTOR SYSTEM CONSIDERING WASTE AND WASTEWATER STREAMS

Michaela Krupp, University of Duisburg-Essen, Department of Waste Management | Andre Lente, University of Duisburg-Essen, Dep. of Waste Management | Andreas Kilzer, University of Bochum, VTP | M. Kretschmann | Katrin Muellner, University of Bochum, BDP | T. Petrovic | T. Happe | M. Rögner | V. Scherer | E. Weidner | H.-J. Wagner | Renuat Widmann, Universität Duisburg-Essen Abfallwirtschaft/Abfalltechnik

2:50 pm – 3:10 pm | Paper No.: 249

WET OXIDATION: COMPETITION OR AMENDMENT FOR CONVENTIONAL COMPOSTING TREATMENTS?

Britta Reinhard, Technische Universität Braunschweig | Tobias Bahr, Technische Universität Braunschweig | Klaus Fricke, TU Braunschweig

3:10 pm – 3:30 pm | Paper No.: 130

IMPACT OF HYDROTHERMAL TREATMENT OF NON-SEGREGATED MSW ON LEVELS OF HEAVY METALS IN COMPOST/DIGESTATE

Efstathios Papadimitriou, CalRecovery Europe Ltd | John Barton, CalRecovery Europe Ltd | Edward Stentiford, Calrecovery Europe Ltd

SESSION 14A4

Developing Countries – Practising Organic Recycling

Chairman: Dipl.-Ing. Frank Schweizer, KNOTEN WEIMAR GmbH

4:00 pm – 4:20 pm | Paper No.: 206

LOW TECH OPTIONS FOR PELLETISING OF POULTRY MANURE IN SOUTH EAST ASIA

Helmut Adwiraah, TU Hamburg Harburg | Ina Körner, TU Hamburg Harburg | Rainer Stegmann, TU Hamburg Harburg

4:20 pm – 4:40 pm | Paper No.: 72

INTEGRATED SUSTAINABLE DECENTRALISED BIO-WASTE UTILISATION APPROACH IN THAILAND

Gunnar Hädrich, Bauhaus-Universität Weimar | Werner Bidlingmaier, Bauhaus-Universität Weimar

4:40 pm – 5:00 pm | Paper No.: 85

BIOGAS TECHNIQUE IN CHINA

Sun Zhenjun, China Agricultural University

5:00 pm – 5:20 pm | Paper No.: 34

ACCELERATED DEGRADATION OF ORGANIC FRACTION OF MUNICIPAL SOLID WASTE IN TROPICAL ENVIRONMENT BY LEACHATE RECIRCULATION

Swati M., Research Scholar, Centre for Environmental Studies, Anna University, Chennai | Kurian Joseph, Assistant Professor, Centre for Environmental Studies, Anna University, Chennai

SESSION 14B1**Composting – Analytical Methods**

Chairman: Ass. Professor Jakob Magid,
Institut for Jordbrugsvidenskab

8:30 am – 8:50 am | Paper No.: 30

RESPIROMETRY TO FOLLOW THE DECLINE OF BIODEGRADABILITY AND STABILISATION OF ORGANIC MATTER DURING A COMPOSTING TREATMENT

Lucie Berthe, Cemagref Rennes France | Céline Druilhe, Cemagref Rennes France | Catherine Massiani, Université de Provence Marseille France | Anne Tremier, Cemagref | Amaury De Guardia, Cemagref Rennes France

8:50 am – 9:10 am | Paper No.: 145

MICROBIAL COMMUNITY SUCCESSION DURING COMPOSTING OF BIOWASTE AS EVALUATED BY PLATING TECHNIQUES AND DENATURING GRADIENT GEL ELECTROPHORESIS ANALYSIS

Christina Chroni, Harokopio University of Athens | Adamantini Kyriacou, Harokopio University of Athens | Ioannis Oikonomou, Harokopio University of Athens | Irene Georgaki, School of Agricultural Technology, TEI of Crete | Thrassyvoulos Manios, School of Agricultural Technology, TEI of Crete | Maria Kotsou, Harokopio University of Athens | Katia Lasaridi, Harokopio University of Athens

9:10 am – 9:30 am | Paper No.: 186

RESPIROMETRIC ANALYSIS TO ASSESS STABILITY OF COMPOST AND MODELING OF COMPOSTING KINETICS

Javier Christian Ramirez Perez, Rutgers, The State University of New Jersey | Robert Cowan, rmcenvironmental | Peter Strom, Rutgers, The State University of New Jersey

SESSION 14B2**Composting Strategies and Technical Solution**

Chairman: Prof. M. de Bertoldi, University of Udine

10:00 am – 10:20 am | Paper No.: 86

COMPOSTING OF METAL CONTAMINATED BIO-WASTE AFTER REMOVAL OF METALS WITH ORGANIC ACIDS OF ACIDIC BIO-WASTES

Mitsuo Chino, Akita Prefectural University | Eriko Tateoka, Akita Prefectural University | Kanatsu Kobayashi, Akita Prefectural University | Hideki Sato | Shou Shindo | Hiroyuki Hattori, Akita Prefectural University

10:20 am – 10:40 am | Paper No.: 33

BIOWASTE HOME COMPOSTING: EXPERIMENTAL PROCESS MONITORING AND QUALITY CONTROL AT ITALIAN PROVINCIAL SCALE

Fabio Tatàno, Environmental Science Faculty, University of Urbino “Carlo Bo”, I | Giacomo Pagliaro, (Environmental Science Faculty, University of Urbino “Carlo Bo”, I | M. Taccari, Environmental Science Faculty, University of Urbino “Carlo Bo”, I

10:40 am – 11:00 am | Paper No.: 203

COMPOSTING OF PIG MANURE WITH AGRICULTURAL WASTES IN NORTHERN THAILAND

Suraphong Wattanachira, Chiang Mai University | Komsan Sumpunkil, Chiang Mai University, Thailand | Sudarat Yooem, Lamphun Municipality Office | Eckhard Kraft, Bauhaus-Universität Weimar

11:00 am – 11:20 am | Paper No.: 250

CO-COMPOSTING OF SEWAGE SLUDGE AND FATS: INFLUENCE OF BULKING AGENT ON POROSITY AND FATS DEGRADATION

Maria Luz Ruggieri, Dpt Enginyeria Quimica – Universitat Autònoma de Barcelona | Adriana Artola, Dpt Enginyeria Quimica – Universitat Autònoma de Barcelona | Teresa Gea, Dpt Enginyeria Quimica – Universitat Autònoma de Barcelona | Antoni Sánchez, Dpt Enginyeria Quimica – Universitat Autònoma de Barcelona

11:20 am – 11:40 am | Paper No.: 131

OPTIMALE KOMPOSTVERMARKTUNG IN EINEM PROFESSIONELLEN REGIONALERDENSYSTEM

Ralf Gottschall, Bauhaus-Universität Weimar

11:40 am – 12:00 pm | Paper No.: 135

EVALUATION OF BIOLOGICAL TREATMENT PLANTS IN SWEDEN AND NORWAY

Hanna Hellström, RVF-Swedish Association of Waste Management
| Henrik Lystad, Norwegian Association of Solid Waste Management

SESSION 14B3

Municipal Solid Waste

Chairman: o. Univ.-Prof. Dipl.-Ing. Dr. Lechner, Universität für Bodenkultur Wien

1:30 pm – 1:50 pm | Paper No.: 124

ENVIRONMENTAL HAZARDS IN LANDFILLS WITH EMPHASIS ON GAS EMISSIONS

Claudio-Fernando Mahler, COPPE/UFRJ, ASCE – American Society of Civil Engineers, International Society of | Jose-Luiz Gerlach-Real, ABES – Brazilian Association of Sanitary Engineering

1:50 pm – 2:10 pm | Paper No.: 195

THE PROBLEMS CREATED BY MSW COMPOSTING PLANT OF LANTIC IN FRANCE

Bernard Morvan, Cemagref | Mark Briand, SMITOM of Launay Lantic

2:10 pm – 2:30 pm | Paper No.: 237

ZAK TECHNOLOGY – TRIAL OPERATION FINDINGS

Gerhard Rettenberger, Fachhochschule Trier

2:30 pm – 2:50 pm | Paper No.: 98

DETERMINATION OF AN INDEX TO EVALUATE THE PUTRESCIBILITY OF MUNICIPAL SOLID WASTE

Barbara Scaglia, DiProVe Università degli Studi di Milano | Fabrizio Adani, DiProVe Università degli Studi di Milano

2:50 pm – 3:10 pm | Paper No.: 235

SEPARATED COLLECTION OF BIODEGRADABLE FRACTION OF MSW: ECONOMIC ASSESSMENT

Ana Gomes, University of Aveiro – Department of Environment and Planning

3:10 pm – 3:30 pm | Paper No.: 219

BIOMETHANISATION EXPERTISE IMPROVEMENT BY PILOT AND FULL SCALE UNIT FOLLOW-UP: PROJECT DEVELOPMENT AND FIRST RESULTS

Olivier Lemaire, CREED | Pierre Buffiere, INRA LBE | Catherine Milhau, FCC Medio Ambiente | Ricardo Arribas, Huelva University | Matthieu Carrere, Creed

SESSION 14B4

Application Soil

Chairman: Prof. Dr. G. Füleky, Szent István University Gödöllő

4:00 pm – 4:20 pm | Paper No.: 177

AGRICULTURAL UTILIZATION OF A LIQUID MANURE ORIGINATED FROM A BIOGAS PLANT

Marianna Makádi, Research Centre of Centre for Agricultural Sciences of Debrecen University | Attila Tomócsik, Research Centre of Centre for Agricultural Sciences of Debrecen University | Viktória Orosz, Research Centre of Centre for Agricultural Sciences of Debrecen University | József Lengyel, Bátortrade Ltd., Nyírbátor | Árpád Márton, Research Centre of Centre for Agricultural Sciences of Debrecen University

4:20 pm – 4:40 pm | Paper No.: 23

IMPACTS OF COMPOSTING ON THE GLOBAL N-CYCLE

Ina Körner, TU Hamburg Harburg

4:40 pm – 5:00 pm | Paper No.: 108

EFFECT OF DEFATTING TREATMENT OF ADDED MEAT AND BONE MEAL ON SOIL FERTILITY

Claudio Mondini, CRA-Istituto Sperimentale per la Nutrizione delle Piante, Sezione di Gorizia | María Luz Cayuela, CEBAS CSIC, Murcia, Spain | Tania Sinicco, CRA-Istituto Sperimentale per la Nutrizione delle Piante, Sezione di Gorizia | Flavio Fornasier, CRA-Istituto Sperimentale per la Nutrizione delle Piante, Sezione di Gorizia | Miguel Angel Sanchez-Monedero, CEBAS CSIC, Murcia, Spain

5:00 pm – 5:20 pm | Paper No.: 175

IMPROVEMENT OF AGGREGATE STABILITY AFTER URBAN COMPOST ADDITION IN A SILTY SOIL

Mohamed Annabi, INRA Versailles-grignon France, CREED R&D Véolia Environnement, INRAT Ariana Tu | Sabine Houot, INRA, Environment and Arable Crops | Cédric Francou, Environment, Energy and waste research center | Maelenn Le Villio-Poitrenaud, CREED R&D Véolia Environnement | Yves Le Bissonnais, INRA Montpellier france

5:20 pm – 5:40 pm | Paper No.: 232

WASTE UTILIZATION FROM RUBBER LATEX INDUSTRY IN TERM OF SOIL CONDITIONER

Thares Srisatit, Chulalongkorn University | Walaiporn Phonphan, Chulalongkorn University

SESSION 14C1

Bioplastics

Chairman: Prof. E. Stentiford, University of Leeds

8:30 am – 8:50 am | Paper No.: 118

BIODEGRADABLE PLASTICS: STATUS AND PERSPECTIVES IN EUROPE

Joeran Reske, European Bioplastics

8:50 am – 9:10 am | Paper No.: 174

TOWARDS SUSTAINABLE SOCIETY “FURANO AREA” – THROUGH BIOLOGICAL RECYCLING OUR ORGANIC WASTE USING BIO-BASED COMPOSTABLE GARBAGE BAG

Katsuyuki Sekine, Bauhaus-Universität Weimar

9:10 am – 9:30 am | Paper No.: 94

COMPARISON BETWEEN THE COMPOSTING OF GREEN WASTES WITH AND WITHOUT DEGRADABLE/BIODEGRADABLE PLASTICS

Geeta Unmar, University of Mauritius | Romeela Mohee, University of Mauritius

SESSION 14C2

Anaerobic Digestion – Innovation and Processing

Chairman: Prof. Dr.-Ing. E. Kraft, Bauhaus-Universität Weimar

10:00 am – 10:20 am | Paper No.: 123

ANAEROBIC DIGESTION OF MUNICIPAL SOLID WASTE IN THERMOPHILIC SEQUENTIAL BATCH PROCESS

Radha Adhikari, Asian Institute of Technology | Jeanger Juanga, Asian Institute of Technology | Chettiyappan Visvanathan, Asian Institute of Technology

10:20 am – 10:40 am | Paper No.: 188

THE VÄXTKRAFT PROJECT – CLOSING THE LOOP BETWEEN CITY AND AGRICULTURE FOR THE PRODUCTION OF RENEWABLE ENERGY, FUELS AND NUTRIENTS BY MEANS OF ANAEROBIC DIGESTION OF BIOWASTE AND ENERGY CROPS

Per-Erik Persson, VAFAB

10:40 am – 11:00 am | Paper No.: 95

MODULAARE – AN INNOVATIVE TECHNOLOGY FOR WASTE AND WASTEWATER TREATMENT IN DECENTRALISED OPERATION AS A PART OF SUSTAINABLE DEVELOPMENT IN RESORT HOTELS AND TOURISM CENTRES

Dieter Steinbach, AT-Association | Andrea Schultheis, AT-Association | Martin Kranert, Universitaet Stuttgart, Germany | Jörg Krampe, Universität Stuttgart | Demet Antakyali, Universität Stuttgart | Gerold Hafner, Universitaet Stuttgart, Germany

11:00 am – 11:20 am | Paper No.: 74

FUTURE REGULATIONS OF HYGIENE IN ANAEROBIC DIGESTION PLANTS

Werner Philipp, Universität Hohenheim | Milan Drca, Universität Hohenheim | Katja Ade-Kappellmann, Universität Hohenheim | Helge Lorenz, Universität Hohenheim | Reinhard Böhm, Universität Hohenheim

11:20 am – 11:40 am | Paper No.: 58

**THE INHIBITION OF BIOGAS PRODUCTION BY ROXAR-
SONE (3-NITRO-4-HYDROXY-PHENYLARSONIC ACID), AN
ARSENIC CONTAINING FEED ADDITIVE IN INDUSTRIAL
MASS FARMING**

Maren Raabe, University of Duisburg-Essen, Department of Waste
Management | Michaela Krupp, University of Duisburg-Essen,
Department of Waste Management | Ines Arens | Renatus
Widmann, Universität Duisburg- Essen
Abfallwirtschaft/Abfalltechnik

11:40 am – 12:00 pm | Paper No.: 212

**INACTIVATION OF CEREAL MYCOTOXINES USING THE
BIOGAS PROCESS AS AN APPROPRIATE MEAN**

Bettina Frauz, Universität Hohenheim | Ulrika Weinmann,
Universität Hohenheim | Hans Oechsner, Universität Hohenheim |
Winfried Drochner, Universität Hohenheim

SESSION 14C3

Anaerobic Digestion – Modelling and Controlling

Chairman: C. Visvanathan, PhD,
Asien Institute of Technology

1:30 pm – 1:50 pm | Paper No.: 176

**FUZZY LOGIC BASED PROCESS CONTROL OF AN ANAER-
OBIC CSTR TREATING AGRICULTURAL RESIDUES**

Jan Liebetrau, Bauhaus-Universität Weimar | Eckhard Kraft,
Bauhaus-Universität Weimar | Werner Bidlingmaier, Bauhaus-
Universität Weimar

1:50 pm – 2:10 pm | Paper No.: 222

**CHARACTERIZATION OF ANAEROBIC PROCESS FROM
HORTICULTURAL WASTE**

Sagrario Veyna Castañeda, Unidad Profesional Interdisciplinaria de
Biotecnología | Diana Ramirez Saenz, Unidad Profesional
Interdisciplinaria de Biotecnología | Fabian Robles Martinez, Unidad
Profesional Interdisciplinaria de Biotecnología | Elvia Ines Garcia
Peña, Unidad Profesional Interdisciplinaria de Biotecnología

2:10 pm – 2:30 pm | Paper No.: 183

**INFLUENCE OF PHYSICAL PARAMETERS ON DRY FER-
MENTATION OF RENEWABLE RAW MATERIALS IN
PACKED BEDS**

Thomas Haupt, Bauhaus-Universität Weimar | Eckhard Kraft,
Bauhaus-Universität Weimar

2:30 pm – 2:50 pm | Paper No.: 230

**EFFECTS OF ORGANIC LOADING RATE AND UPFLOW
VELOCITY ON BIOGAS PRODUCTION AND GRANULAR
SLUDGE STRUCTURE BY HIGH RATE EGSB SYSTEM IN
TREATING DISTILLERY SLOP WASTEWATER**

Chavalit Ratanatamskul, Chulalongkorn University | Patcharin
Nuntiwawat, Chulalongkorn University

2:50 pm – 3:10 pm | Paper No.: 182

**MODELLING OF A SBR TO TREAT THE SUPERNATANT
FROM ANAEROBIC DIGESTION OF THE ORGANIC FRACTION
OF MUNICIPAL SOLID WASTE**

Joan Dosta, University of Barcelona | Alex Gali, University of
Barcelona | Sandra Mace, University of Barcelona | Joan Mata-
Álvarez, University of Barcelona

3:10 pm – 3:30 pm | Paper No.: 139

**EFFECTS OF RESIDUAL NON-ADDED SUBSTRATE ON THE
PREDICTION OF VFAS INHIBITION KINETICS OF ANAER-
OBIC, THERMOPHILIC (54°C), CO-DIGESTION OF COM-
PLEX BIOWASTES**

Raghida Lepistö, Tampere University of Technology | Sakari
Halttunen, Tampere University of Technology

SESSION 14C4

Anaerobic Digestion – Modelling and Controlling

Chairman: Prof. Dr.-Ing. M. Kranert, Universität Stuttgart

4:00 pm – 4:20 pm | Paper No.: 16

**ANAEROBIC CO-DIGESTION OF ANIMAL TISSUE AND
PRIMARY SLUDGE: BIODEGRADATION KINETICS AND
METABOLITE ANALYSIS**

Arumugam Thangamani, research fellow | Suseela Rajakumar,
Central Leather Research Insitute – CLRI – INDIA | Alwar
Ramanujam, Central Leather Research Insitute – CLRI – INDIA

4:20 pm – 4:40 pm | Paper No.: 11

**PARAMETER ESTIMATION FOR ADM₁: APPLICATION TO
A FULL-SCALE PLANT FOR SEWAGE SLUDGE TREATMENT**

Carla Cimatoribus, Insitute for Sanitary Engineering, water quality
and Solid Waste Management | Martin Kranert, Universitaet
Stuttgart, Germany

4:40 pm – 5:00 pm | Paper No.: 238

STUDY OF THE CHARACTERISTICS OF BIOGASIFICATION FACILITIES FOR PLANNING KITCHEN-WASTE MANAGEMENT IN JAPAN

Noboru Tanikawa, Graduate School of Engineering, Hokkaido University | Toru Furuichi, Graduate School of Engineering, Hokkaido University | Kazuei Ishii, Graduate School of Engineering, Hokkaido University | Kohei Nishigami, Graduate School of Engineering, Hokkaido University

5:00 pm – 5:20 pm | Paper No.: 248

VACUUM HEAT EXTRACTION FOR THE IMPROVEMENT OF THE EFFICIENCY OF ANAEROBIC TREATMENT PROCESSES

Tobias Bahr, Technische Universität Braunschweig | R. Liebeneiner | K. Fricke

SESSION 14D1

Compost – Quality and Application

Chairman: Jerry Leonard, PhD, PEng,
Edmonton Waste Management Centre of Excellence

8:30 am – 8:50 am | Paper No.: 180

A CONTRIBUTION FOR A QUALITY STUDY OF SEVERAL COMPOSTS PRODUCED IN PORTUGAL

Maria Elisabete Ferreira Silva, Escola Superior de Tecnologia de Viseu, Instituto Politécnico de Viseu | Ivone Vaz-Moreira, LEPAE – Departamento de Engenharia Química, Faculdade de Engenharia, Universidad | Cristina Silva, Departamento de Química Agrícola e Ambiental, Instituto Superior de Agronomia | Helena Sarabando, Escola Superior de Tecnologia de Viseu, Instituto Politécnico de Viseu | Olga Nunes, LEPAE – Departamento de Engenharia Química, Faculdade de Engenharia, Universidad | Célia Manaia, Escola Superior de Biotecnologia, Universidade Católica Portuguesa | Cristina Cunha-Queda, Departamento de Química Agrícola e Ambiental, Instituto Superior de Agronomia

8:50 am – 9:10 am | Paper No.: 157

PROLIFERATION OF AEROBIC COMPLEX MICROORGANISMS DURING COMPOSTING OF RICE BRAN WITH CHARCOAL

Shuji Yoshizawa, Meisei University | Satoko Tanaka, Meisei University | Michio Ohata, Meisei University | Shigeru Mineki, Tokyo University of Science | Sumio Goto, National Institute for Environmental Studies | Kenji Fujioka, Venture Viser Inc.

9:10 am – 9:30 am | Paper No.: 199

EVALUATION OF COMPOSTED BOTANIC MATERIALS AS COMPONENTS OF A REDUCED-PEAT GROWING MEDIA FOR NURSERY STOCK

Munoo Prasad, Bord na Mona Research center | Michael Maher, Kinsealy Research center, Teagasc

SESSION 14D2

Compost – Quality and Application

Chairman: Morten Brøgger, Solum Group

10:00 am – 10:20 am | Paper No.: 141

IMPACT OF FEEDSTOCK AND ROTTING PROCESS ON COMPOST-QUALITY

Erwin Binner, BOKU-University of Natural Resources and Applied Life Sciences, Vienna | Johannes Tintner, Universität für Bodenkultur-Wien

10:20 am – 10:40 am | Paper No.: 113

EFFECTS OF LAND APPLICATION OF SEWAGE SLUDGE COMPOST AND BIOWASTE COMPOST IN TWO CONTAMINATED SOILS.

Margalida Colomàs Borràs, Universitat de les Illes Balears | Jeroni Vera Caldentey, Universitat de les Illes Balears | Jaume Vadell Adrover, Universitat de les Illes Balears

10:40 am – 11:00 am | Paper No.: 77

USE OF COMPOST TO IMPROVE SOIL PROPERTIES AND PLANT GROWTH IN SALINE AND SODIC SOILS

Johannes Biala, The Organic Force | Judtih Raue, Natural Resource Sciences, Queensland University of Technology | Cameron Smeal, GELITA Australia | Brian Schafer, Highfields Garden Centre | Peter Grace, Natural Resource Sciences, Queensland University of Technology

11:00 am – 11:20 am | Paper No.: 179

ANAEROBIC PRE-TREATMENT EFFECTS ON THE AEROBIC DEGRADABILITY OF WASTE WATER SLUDGE

Beatrix Szcs, Eötvös József College | Miklós Simon, Eötvös József College Baja | György Füleky, Szent István University Gödöllő

11:20 am – 11:40 am | Paper No.: 170

EVALUATION OF WASTE FROM THE WINERY INDUSTRY AS SOIL AMENDMENT

Ana Moldes, Dpto. Edafología y Química Agrícola. Facultad de Farmacia. Universidad de Santia | Manuel Vazquez, Área de Tecnología de los Alimentos, Dpto. Química Analítica, Escuela Politécnico | Jose M Dominguez, Facultad de Ciencias de Orense. As Lagoas 32004 Ourense (Spain) | Francisco Diaz-Fierros, Dpto. Edafología y Química Agrícola. Facultad de Farmacia. Universidad de Santia | María Teresa Barral, Departamento de Edafología y Química Agrícola. Facultad de Farmacia. Universidad

11:40 am – 12:00 pm | Paper No.: 200

BOTANIC COMPOSTED MATERIAL AND SPENT MUSHROOM COMPOST AS MICRONUTRIENT SOURCES FOR PEAT DILUTED GROWING MEDIA

Munoo Prasad, Bord na Mona Research center | Michael Maher, Kinsealy Research center, Teagasc

SESSION 14D3

Pollution

Chairman: Prof. Dr.-Ing. habil. W. Bidlingmaier, Bauhaus-Universität Weimar

1:30 pm – 1:50 pm | Paper No.: 57

THE OCCURRENCE OF METHYLATED ARSENIC COMPOUNDS DURING AEROBIC AND ANAEROBIC BIOLOGICAL WASTE TREATMENT – POTENTIAL SOURCES OF POLLUTION ?

Maren Raabe, University of Duisburg-Essen, Department of Waste Management | Alfred Vitalis Hirner, University of Duisburg-Essen, Department of Environmental Analytical Chemistry | Renatus Widmann, Universität Duisburg- Essen Abfallwirtschaft/Abfalltechnik

1:50 pm – 2:10 pm | Paper No.: 150

AIRWAY INFLAMMATION IN COMPOST WORKERS EXPOSED TO BIOAEROSOLS

Henrik Lystad, Norwegian Association of Solid Waste Management | Kari K Heldal, National Institute of Occupational Health (STAMI) | L. Madsø, National Institute of Occupational Health (STAMI) | P. O. Huser, National Institute of Occupational Health (STAMI) | K. Kruse, National Institute of Occupational Health (STAMI) | E. A. Seberg, National Institute of Occupational Health (STAMI)

2:10 pm – 2:30 pm | Paper No.: 172

ORGANIC POLLUTANTS IN COMPOST AND DIGESTATE: OCCURRENCE, FATE AND IMPACTS

Thomas Kupper, Swiss Federal Institute of Aquatic Science and Technology, Eawag, CH-8600 Dübend | Rahel. C. Brändli, Agroscope FAL Reckenholz, Swiss Federal Institute for Agroecology and Agriculture | Thomas D. Bucheli, Agroscope FAL Reckenholz, Swiss Federal Institute for Agroecology and Agriculture | Carine Stämpfli, Ecole Polytechnique Fédérale de Lausanne (EPFL), Laboratory of Environmental Chemistry | Markus Zennegg, Swiss Federal Institute for Materials Science and Technology (EMPA), Laboratory | Urs Berger, Institute for Air Research (NILU), N-9296 Tromsø, Norway | Patrick Edder, Service de Protection de la Consommation, CH-1211 Geneva, Switzerland | Mandy Pohl | Fode Niang | Saverio Iozza | Josef Müller,) Fraunhofer-Institut für Umweltchemie und Ökotoxikologie (IUCT), D-57377 Schmal | Christian Schaffner, Swiss Federal Institute of Aquatic Science and Technology, Eawag, CH-8600 Dübend | Peter Schmid, Swiss Federal Institute for Materials Science and Technology (EMPA), Laboratory | Sandra Huber, Institute for Air Research (NILU), N-9296 Tromsø, Norway | Didier Ortelli, Service de Protection de la Consommation, CH-1211 Geneva, Switzerland | Kristin Becker-van Slooten | Michael Oehme | Jochen Mayer, Agroscope FAL Reckenholz, Swiss Federal Research Station for Agroecology and Agr | Hans-Jörg Bachmann | Franz X. Stadelmann, Agroscope FAL Reckenholz, Swiss Federal Institute for Agroecology and Agriculture | Josepf Tarradellas, Ecole Polytechnique Fédérale de Lausanne (EPFL), Laboratory of Environmental Chemistry

2:30 pm – 2:50 pm | Paper No.: 210

PATHOGENS IN SOIL AND MAIZE AFTER COMPOST INCORPORATION

Cédric Francou, Environment, Energy and waste research center | Maelenn Poitrenaud, Environment, Energy and waste research center | Sabine Houot, INRA, Environment and Arable Crops

2:50 pm – 3:10 pm | Paper No.: 221

TRACE METAL SOURCES IN MUNICIPAL SOLID WASTE COMPOST

Bo Ge, University of Alberta | Daryl McCartney, University of Alberta | Salim Abboud, Alberta Research Council

3:10 pm – 3:30 pm | Paper No.: 218

RESULTS OF LONG-TERM EXPERIMENTS ON LEACHATE AND HEAVY METALS TRANSFORMATIONS IN PRE-TREATED RESIDUAL WASTE

Emilia den Boer, Technische Universität Darmstadt | Anke Bockreis, Technische Universität Darmstadt

SESSION 14D4

Life Cycle Analysis and Global Aspects

Chairman: Dr.-Ing. MSc S. Salhofer, Bodenkundliche Universität Wien

4:00 pm – 4:20 pm | Paper No.: 192

LCA AND THE CARBON BALANCE IN THE NETHERLANDS – LIFE CYCLE ASSESSMENT FOR HOUSEHOLD BIOWASTE COMPOSTING

John van Haeff, Essent Milieu

4:20 pm – 4:40 pm | Paper No.: 40

WORLD WIDE MOVEMENT OF ORGANIC MATTER – A SOUTH-NORTH ONE-WAY FLOW?

Christian Springer, Bauhaus-Universität Weimar | Werner Bidlingmaier, Bauhaus-Universität Weimar

4:40 pm – 5:00 pm | Paper No.: 89

COMPARATIVE LIFE CYCLE ASSESSMENT OF THE PRODUCTION OF CHEMICAL FERTILIZERS VERSUS ORGANIC FERTILIZERS DERIVED FROM POULTRY AND MUNICIPAL SOLID WASTES

Romeela Mohee, University of Mauritius | Neermala PuDaruth, Ministry of Environment

5:00 pm – 5:20 pm | Paper No.: 129

COMPOSTING OF BIOGENOUS WASTE – CONSIDERED EMISSIONS AND CREDITS IN LCA AND THEIR INFLUENCE ON COMPARATIVE RESULTS

Gudrun Wassermann, BOKU University of Natural Resources and Applied Life Sciences | Roland Linzner, BOKU University of Natural Resources and Applied Life Sciences, Vienna

SESSION 14ANS1

Mechanisch-biologische Restabfallbehandlung – 1 Jahr Praxiserfahrungen | Mechanical-Biological Residual Waste Treatment – One Year of Practical Experience

Chairman: Dipl.-Ing. Georg Kosak, Stellv. Vorsitzender des ANS e.V.

8:30 am – 8:50 am | Paper No.: 290

MECHANISCH-BIOLOGISCHE RESTABFALLBEHANDLUNG IN BRANDENBURG – DIE VERWERTUNG DER HEIZWERTREICHEN FRAKTION | MECHANICAL-BIOLOGICAL RESIDUAL WASTE TREATMENT IN BRANDENBURG – SOLUTIONS FOR RECYCLING THE FRACTION HIGH IN CALORIFIC VALUE

Bernhard Remde, Ministerium für Landwirtschaft, Umwelt- und Verbraucherschutz Brandenburg

8:50 am – 9:10 am | Paper No.: 291

MECHANISCH-BIOLOGISCHE RESTABFALLBEHANDLUNG IN RHEINLAND PFALZ – KOMPLEX UND KOMPLIZIERT | MECHANICAL-BIOLOGICAL RESIDUAL WASTE TREATMENT IN RHINELAND-PALATINATE – COMPLEX AND COMPLICATED

Joachim Dach, Björnsen Beratende Ingenieure GmbH

9:10 am – 9:30 am | Paper No.: 292

DEPONIERUNG STABILISierter RESTABFÄLLE | DISPOSAL OF STABILISED RESIDUAL WASTE AT LANDFILLS

Florian Kölsch, Dr. Kölsch Geo- und Umwelttechnik

SESSION 14ANS2**Mechanisch-biologische Restabfallbehandlung –
1 Jahr Praxiserfahrungen |
Mechanical-Biological Residual Waste Treatment
– One Year of Practical Experience**

Chairman: Dipl.-Ing. Georg Kosak,
Stellv. Vorsitzender des ANS e.V.

10:00 am – 10:20 am | Paper No.: 293

NEUE TECHNOLOGIEN ZUR MECHANISCH-BIOLOGISCHEN RESTABFALLBEHANDLUNG | NEW TECHNOLOGY FOR MECHANICAL-BIOLOGICAL RESIDUAL WASTE TREATMENT

Michael Nelles, Universität Rostock

10:20 am – 10:40 am | Paper No.: 305

DISKUSSION | DISCUSSION

N.N.

10:40 am – 11:00 am | Paper No.: 294

KONZEPTE ZUM BAU, BETRIEB UND ZUR ÜBERWACHUNG VON ZWISCHENLAGERN | CONCEPTS FOR CONSTRUCTION, OPERATION AND MONITORING OF INTERIM STORAGE

Johann Roth, Ingenieurbüro Roth und Partner GmbH | Martin Brühl, Fa. BEN GmbH

11:00 am – 11:20 am | Paper No.: 295

KORROSION BEI BIOLOGISCHEN ABFALLBEHANDLUNGSVERFAHREN – URSACHEN, PRÄVENTIVE SCHUTZMAßNAHMEN UND SANIERUNGSKONZEPTE | CORROSION IN BIOLOGICAL WASTE TREATMENT PROCESSES – CAUSES, PREVENTATIVE PROTECTION MEASURES AND REMEDIATION CONCEPTS

Klaus Fricke, TU Braunschweig | Norbert Dichtl, GKE Ingenieure Bochum | Britta Reinhard, Technische Universität Braunschweig

11:20 am – 11:40 am | Paper No.: 296

WER GEWÄHRLEISTET WAS? – INPUTMATERIALIEN, ANLAGEN- UND VERFAHRENSTECHNIK, OUTPUTQUALITÄTEN | WHO IS RESPONSIBLE FOR WHAT? – FEED MATERIAL, PLANT AND PROCESS TECHNOLOGY, OUTPUT QUALITY

Hartmut Gaßner, Germany

11:40 am – 12:00 pm | Paper No.: 305

DISKUSSION | DISCUSSION

N.N.

SESSION 14BGK1**Humus Day**

Chairman: A. Oechtering,
Bundesgütegemeinschaft Kompost

1:30 pm – 1:50 pm | Paper No.: 269

BEGRÜßUNG UND EINLEITUNG | GREETING AND INTRODUCTION

A. Oechtering, Bundesgütegemeinschaft Kompost

1:50 pm – 2:10 pm | Paper No.: 270

ASPEKTE DER STOFFLICHEN NUTZUNG VON BIOMASSE (GÄRRÜCKSTÄNDE, KOMPOSTE) AUS DER ÜBERBEREITBLICHEN KREISLAUFWIRTSCHAFT | ASPECTS OF MATERIAL USE OF BIOMASS (FERMENTATION RESIDUES, COMPOST) FROM INTER-OPERATIONAL RESOURCE MANAGEMENT

n.n. to be announced, Umweltbundesamt

2:10 pm – 2:30 pm | Paper No.: 271

AUSWIRKUNG DES STRUKTURWANDELS IN DER LANDWIRTSCHAFT SOWIE BEDEUTUNG DER ZUNEHMENDEN ERZEUGUNG NACHWACHSENDE ROHSTOFFE ZUR ENERGETISCHEN VERWERTUNG AUF DEN HUMUSBEDARF VON ACKERBÖDEN | EFFECTS OF THE STRUCTURAL CHANGE IN AGRICULTURE, AS WELL AS THE RELEV

Christof Engels, Humboldt-Universität Berlin | Jutta Zeitz, Humboldt-Universität Berlin

2:30 pm – 2:50 pm | Paper No.: 272

VORTEILSWIRKUNGEN DER ANWENDUNG VON KOMPOST NACH GUTER FACHLICHER PRAXIS | POSITIVE EFFECTS OF THE USE OF COMPOST ACCORDING TO GOOD PROFESSIONAL PRACTICE

Bertram Kehres, Bundesgütegemeinschaft Kompost

2:50 pm – 3:10 pm | Paper No.: 273

STAND UND ENTWICKLUNG VON QUALITÄTSSTANDARDS UND GÜTESICHERUNG FÜR KOMPOST UND GÄRPRODUKTE IN EUROPA | STATUS QUO AND DEVELOPMENT OF QUALITY STANDARDS AND ASSURANCE FOR COMPOST AND FERMENTATION PRODUCTS IN EUROPE
Stefanie Siebert, ECN – European Compost Network

SESSION 14BGK2

Humus Day

Chairman: Dr. B. Kehres, Bundesgütegemeinschaft Kompost

4:00 pm – 4:20 pm | Paper No.: 274

EINFLUSS DER GEBÜHRENVERANLAGUNG AUF DIE EFFIZIENZ DER GETRENNTEN SAMMLUNG SOWIE KOSTEN DER SAMMLUNG UND VERWERTUNG VON BIOABFÄLLEN | INFLUENCE OF FEE ASSESSMENT ON THE EFFICIENCY OF SEPARATE COLLECTION, AS WELL AS COSTS OF COLLECTION AND RECYCLING OF BIO
Klaus Gellenbeck, INFA, Ahlen

4:20 pm – 4:40 pm | Paper No.: 275

KRITERIEN UND BEURTEILUNG EINES EMISSIONSARMEN BETRIEBES VON KOMPOSTIERUNGSANLAGEN | CRITERIA AND EVALUATION OF LOW-EMISSION OPERATION OF COMPOSTING PLANTS
Andreas Maile, HEILIT Umwelttechnik GmbH

4:40 pm – 5:00 pm | Paper No.: 276

KRITERIEN FÜR EINE ANAEROBE BEHANDLUNG VON BIOABFÄLLEN ANSTELLE ODER IN ERGÄNZUNG ZUR KOMPOSTIERUNG | CRITERIA FOR ANAEROBIC TREATMENT OF BIOWASTE INSTEAD OF OR AS A SUPPLEMENT TO COMPOSTING
Jaqueline Daniel, IE – Institut für Energetik, Leipzig

5:00 pm – 5:20 pm | Paper No.: 277

REICHWEITE UND AUSWIRKUNG DER NATIONALEN UMSETZUNG EUROPÄISCHER HYGIENEVORSCHRIFTEN FÜR ORGANISCHE ABFÄLLE IN DEUTSCHLAND | SCOPE AND EFFECTS OF THE NATIONAL IMPLEMENTATION OF EUROPEAN HYGIENE REGULATIONS FOR ORGANIC WASTE IN GERMANY
Andreas Kirsch, BGK – Bundesgütegemeinschaft Kompost

5:20 pm – 5:40 pm | Paper No.: 278

GENERALDISKUSSION | GENERAL DISCUSSION
Podium mit Referenten | Podium Discussion, BGK – Bundesgütegemeinschaft Kompost

SESSION 14CD1

Conference Dinner

Chairman: N.N.

SESSION 15A1***Developing Countries – Education*****Chairman:** Dr. L. F. Diaz, Cal Recovery, Inc.

8:30 am – 8:50 am | Paper No.: 216

INTERNET-BASED LEARNING AND CO-OPERATIVE EXCHANGE OF KNOWLEDGE – PLATFORMS BASED ON OPEN SOURCE SOFTWARE

Peter Wagner, Bauhaus-Universität Weimar | Matthias Hupfer, Bauhaus-Universität Weimar | Annett Zobel, Metacoön Services

8:50 am – 9:10 am | Paper No.: 125

ASSESSMENT SYSTEM OF AREAS USED FOR URBAN SOLID WASTE DISPOSAL

Adriana Soares von Schueler, COPPE/UFRJ | Claudio-Fernando Mahler, COPPE/UFRJ, ASCE – American Society of Civil Engineers, International Society of

9:10 am – 9:30 am | Paper No.: 51

A MODULAR E-LEARNING BASED DISTANCE EDUCATION MSC PROGRAM TO IMPLEMENT SUSTAINABLE ENVIRONMENTAL ENGINEERING AND INFRASTRUCTURE DEVELOPMENT APPROACHES IN DEVELOPING COUNTRIES

Jürgen Martens, KNOTEN WEIMAR GmbH

SESSION 15A2***Composting Strategies und Technical Solution*****Chairman:** Dr. agr. M. Chino, Akita Prefectural University

10:00 am – 10:20 am | Paper No.: 228

EVOLUTION OF COMPOSTING STRATEGIES FOR SOLID WASTE MANAGEMENT

Marco de Bertoldi, University of Udine

10:20 am – 10:40 am | Paper No.: 146

STRATEGIES FOR QUICK ESTABLISHMENT OF HIGH-RATE COMPOSTING IN ACIDIC HOUSEHOLD WASTE

Anne Bøen, Bioforsk | Roald Aasen, Bioforsk Soil and Environmental Division | Ove Bergersen, Bioforsk

10:40 am – 11:00 am | Paper No.: 80

DEVELOPMENT OF AN AEROBIC BIOLOGICAL PROCESS FOR COMPOSTING AND RESIDUAL WASTE TREATMENT

Pietro Paolo Cella Mazzariol, Entsorga Italia Srl

11:00 am – 11:20 am | Paper No.: 240

INVESTIGATION OF BIOMASS RECYCLING SYSTEMS OF COMPOSTING LIVESTOCK MANURE AND BRANCH CHIPS IN SAPPORO JAPAN

Kazuei Ishii, Graduate School of Engineering, Hokkaido University | Toru Furuichi, Graduate School of Engineering, Hokkaido University | Noboru Tanikawa, Graduate School of Engineering, Hokkaido University

11:20 am – 11:40 am | Paper No.: 241

FUNCTIONAL COMPOST

Jesper Luxhøi, Agricultural University – Plant and Soil Science – Denmark | Morten Brøgger, Solum A/S – Denmark | Inge M. B. Knudsen, Agricultural University – Plant pathology – Denmark | Pernille H. B. Poulsen, Agricultural University – Plant and Soil Science – Denmark | Jacob Møller, Agricultural University – Plant and Soil Science – Denmark | B. Jensen | Dan Funck Jensen, Agricultural University – Plant pathology – Denmark | Jakob Magid, Agricultural University – Plant and Soil Science – Denmark

SESSION 15A3***Composting – Analytical Methods*****Chairman:** Prof. M. de Bertoldi, University of Udine

1:30 pm – 1:50 pm | Paper No.: 75

MONITORING CARBON-DIOXIDE AND AMMONIA FROM COMPOSTS BY USE OF SOLVITA DIGITAL COLOUR READER

William Brinton, Woods End Research Laboratory | Eric Evans, Woods End Research Laboratory

1:50 pm – 2:10 pm | Paper No.: 247

OLIGONUCLEOTIDE MICROARRAY FOR THE INVESTIGATION OF COMPOST APPLICATION TO SOILS

Ingrid Franke-Whittle, Research Studios Austria, Studio BiotreaT | Sabine Mayrhofer, Leopold-Franzens-Universität Innsbruck | Heribert Insam, Leopold-Franzens-Universität Innsbruck

2:10 pm – 2:30 pm | Paper No.: 132

COMPOST QUALITY ASSESSMENT BY MEANS OF FTIR SPECTROSCOPY AND THERMAL ANALYSIS – STATISTICAL METHODS FOR PRACTICAL APPLICATION

Ena Smidt, BOKU-University of Natural Resources and Applied Life Sciences, Vienna | K. Meissl | Manfred Schwanninger, Department of Chemistry; BOKU-University of Natural Resources and Applied Life S

2:30 pm – 2:50 pm | Paper No.: 25

APPLICATION OF PHOSPHOLIPID FATTY ACID ANALYSIS TO EVALUATE QUALITY IN LIVESTOCK MANURE COMPOSTS

Kotaro Kato, Institute for Agro-Microbiology | Nobuaki Miura, Institute for Agro-Microbiology | Hiroyasu Tabuchi, Institute for Agro-Microbiology | Ichio Nioh, Institute for Agro-Microbiology

SESSION 15A4

Composting

Chairman: Univ.-Prof. Dr. H. Insam, Universität Innsbruck

4:00 pm – 4:20 pm | Paper No.: 93

BIOLOGICAL FOOD WASTE TREATMENT – A THERMOACIDOPHILIC PROCESS INSTEAD OF COMPOSTING?

Cecilia Sundberg, Swedish University of Agricultural Sciences | Jenny Leonardsson, Swedish University of Agricultural Sciences | Emma Östensson, Swedish University of Agricultural Sciences | Håkan Jönsson, Swedish University of Agricultural Sciences

4:20 pm – 4:40 pm | Paper No.: 197

POTENTIAL OF DIFFERENT COMPOSTS TO IMPROVE SOIL FERTILITY AND PLANT HEALTH

Jacques G. Fuchs, Research Institute of Organic Agriculture, FiBL, CH-5070 Frick, Switzerland | Urs Baier, University of Applied Sciences Waedenswil (HSW), CH-8820 Waedenswil, Switzerland | Alfred Berner, Research Institute of Organic Agriculture, FiBL, CH-5070 Frick, Switzerland | Jochen Mayer, Agroscope FAL Reckenholz, Swiss Federal Research Station for Agroecology and Agr | Lucius Tamm, Research Institute of Organic Agriculture, FiBL, CH-5070 Frick, Switzerland | Konrad Schleiss, Environment & Compost Consulting, CH-2540 Grenchen, Switzerland

4:40 pm – 5:00 pm | Paper No.: 310

MICROBIOLOGICAL AND CHEMICAL ANALYSIS OF A RICE HUSKS COMPOST

M. A. Seck, Université Cheikh Anta Diop

SESSION 15B1

Policy and Strategy

Chairman: F. Amlinger, Kompost – Entwicklung & Beratung

8:30 am – 8:50 am | Paper No.: 189

STATUS AND TRENDS IN BIOLOGICAL WASTE TREATMENT IN EUROPE

Josef Barth, ECN

8:50 am – 9:10 am | Paper No.: 214

MBT IN EU STRATEGIES TO IMPLEMENT THE LANDFILL DIRECTIVE: TRENDS, EXPERIENCES AND REGULATORY ASPECTS

Enzo Favoino, Scuola Agraria del Parco di Monza | Josef Barth, ECN

9:10 am – 9:30 am | Paper No.: 105

ROLE AND EVALUATION OF BIOLOGICAL WASTE MANAGEMENT IN THE FRAME OF NEW WASTE MANAGEMENT STRATEGIES

Martin Kranert, Universitaet Stuttgart, Germany | Gerold Hafner, Universitaet Stuttgart, Germany | Nicolas Escalante, Universitaet Stuttgart, Germany

SESSION 15B2

Policy and Strategy

Chairman: Enzo Favoino, Scuola Agraria del Parco di Monza

10:00 am – 10:20 am | Paper No.: 262

SITUATION AND REQUIREMENTS FOR BIOWASTE MANAGEMENT IN THE EASTERN EUROPEAN ENLARGEMENT COUNTRIES

Laszlo Alexa, Hungarian Compost Quality Assurance Association, Gödöllő, Hungary

10:20 am – 10:40 am | Paper No.: 263

THE UK'S EXPERIENCE IMPLEMENTING BIOWASTE MANAGEMENT STRATEGIES

Jane Gilbert, The Composting Association, Wellingborough, UK | Emiliy Nichols

10:40 am – 11:00 am | Paper No.: 264

EUROPEAN UNION SOIL THEMATIC STRATEGY

Claudia Olazabal, European Commission, DG Env., Brussels, Belgium

11:00 am – 11:20 am | Paper No.: 104

INORGANIC AND ORGANIC POLLUTANTS IN COMPOST – APPROACH FOR EU-WIDE QUALITY DEFINITIONS

Florian Amlinger, KEB Compost – Consulting & Development, Perchtoldsdorf, Austria | Enzo Favoino, Scuola Agraria del Parco di Monza | Michael Pollak, wpa gmbh

11:20 am – 11:40 am | Paper No.: 42

FROM WASTE TO A VALUABLE PRODUCT – 10 YEARS OF COMPOST QUALITY EFFORTS IN AUSTRIA AND EUROPE

Horst Mueller, European Compost Network

11:40 am – 12:00 pm | Paper No.: 184

IMPLEMENTING THE LANDFILL DIRECTIVE IN GREECE: PROBLEMS, PERSPECTIVES AND LESSONS TO BE LEARNED

Katia Lasaridi, Harokopio University of Athens

SESSION 15B3

Policy and Strategy

Chairman: Dipl.-Ing. J. Barth,
European Composting Network

1:30 pm – 1:50 pm | Paper No.: 266

APPROACHES FOR THE NATIONAL IMPLEMENTATION OF THE ANIMAL BY-PRODUCT REGULATION – NEW REGULATIONS AND TRENDS

Morten Carlsbaeck, Solum Group, Hedehusene, Denmark

1:50 pm – 2:10 pm | Paper No.: 267

TOWARDS THE 7TH FRAMEWORK PROGRAMME – RESEARCH NEEDS IN COMPOSTING OF BIOWASTE

Florian Amlinger, KEB Compost – Consulting & Development, Perchtoldsdorf, Austria

2:10 pm – 2:30 pm | Paper No.: 268

STRATEGIES FOR THE IMPLEMENTATION OF THE EU LANDFILL DIRECTIVE IN DIFFERENT MEMBER STATES

Josef Barth, ECN | Marco Ricci, Scuola Agraria del Parco di Monza, Working Group on Composting, Monza, Italy

2:30 pm – 2:50 pm | Paper No.: 265

ANAEROBIC DIGESTION OF BIOWASTE ACROSS EUROPE

Dieter Korz, Ros Roca Internacional, Esslingen, Germany

2:50 pm – 3:10 pm | Paper No.: 44

PERFORMANCE OF BIO-MECHANICAL WASTE TREATMENT WITHIN EUROPE

Wolfgang Müller, IGW Ingenieurgesellschaft Witzenhausen

3:10 pm – 3:30 pm | Paper No.: 208

USE OF THE MBT PROCESS AS AN INTEGRAL PART OF SUSTAINABLE WASTE MANAGEMENT IN SCOTLAND

Ole Pahl, Caledonian Environment Centre | McKenzie Hutton, Caledonian Environment Centre | Elaine McColl, Caledonian Environment Centre

SESSION 15C1

Composting – Analytical Methods

Chairman: Prof. Dr.-Ing. R. Widmann,
Universität Duisburg-Essen

8:30 am – 8:50 am | Paper No.: 279

NEW METHOD FOR EVALUATION OF IMPURITIES IN COMPOST

Maria Thelen-Jüngling, BGK-Bundesgütegemeinschaft Kompost

8:50 am – 9:10 am | Paper No.: 204

A SEMIAUTOMATIC CHROMATOGRAPHY SYSTEM TO EVALUATE C CYCLE IN AMENDED SOILS UNDER LABORATORY CONDITIONS.

Mari Luz Cayuela, CEBAS-CSIC | Miguel A. Sánchez-Monedero, CEBAS-CSIC (Consejo Superior de Investigaciones Científicas) | Asunción Roig, CEBAS-CSIC | Tania Sinicco, CRA-Istituto Sperimentale per la Nutrizione delle Piante, Sezione di Gorizia | Flavio Fornasier, CRA-Istituto Sperimentale per la Nutrizione delle Piante, Sezione di Gorizia | Claudio Mondini, CRA-Istituto Sperimentale per la Nutrizione delle Piante, Sezione di Gorizia

9:10 am – 9:30 am | Paper No.: 260

MONITORING THE BIOLOGICAL ACTIVITY OF THE COMPOSTING PROCESS OF MULTIPLE WASTES

Teresa Gea, Dpt Enginyeria Quimica – Universitat Autònoma de Barcelona | Raquel Barrena, Dpt Enginyeria Quimica – Universitat Autònoma de Barcelona | Maria Luz Ruggieri, Dpt Enginyeria Quimica – Universitat Autònoma de Barcelona | Adriana Artola, Dpt Enginyeria Quimica – Universitat Autònoma de Barcelona | Antoni Sánchez, Dpt Enginyeria Quimica – Universitat Autònoma de Barcelona

SESSION 15C2

Composting – Processing

Chairman: H. M. Keener, The Ohio State University

10:00 am – 10:20 am | Paper No.: 122

EVALUATION OF STORAGE METHODS AND COMPOSTING OF POULTRY LITTER FOR NITRATE LEACHING AND SOIL FERTILITY. EVALUATION OF STORAGE METHODS AND COMPOSTING OF POULTRY LITTER FOR NITRATE LEACHING AND SOIL FERTILITY.

Arshad Chaudhry, University of Arid Agriculture, Rawalpindi Pakistan | Ghulam Jilani, University of Arid Agriculture, Rawalpindi Pakistan

10:20 am – 10:40 am | Paper No.: 213

FLUENT MEASUREMENT OF WATER CONTENT VIA TDR FOR PROCESS MONITORING

Cornelius Jantschke, Universität Hohenheim | Rolf Becker, IMKO Micromodultechnik | Karlheinz Köller, Universität Hohenheim

10:40 am – 11:00 am | Paper No.: 92

DEGRADATION DYNAMICS OF SEVERAL ORGANIC MATTER POOLS IN FOOD PROCESSING SLUDGE AT DIFFERENT COMPOSTING TEMPERATURES

Domingo Perez, University of Vigo | Francina Sole, University of Lleida | Angela Rodriguez, University of Vigo | Luis Sampedro, Centro de Investigaciones Forestales de Lourizan | Xavier Flotats, GIRO CT | Salustiano Mato, University of Vigo

11:00 am – 11:20 am | Paper No.: 83

APTITUDE FOR COMPOSTING OF THE ORGANIC FRACTION SELECTED BY MECHANICAL METHODS. CASE STUDY AT “SERRA DO BARBANZA” ENVIRONMENTAL FACILITY (A CORUÑA, SPAIN)

Salustiano Mato, University of Vigo | David Cereijo, University of Vigo | Juan Luis Ferro, University of Vigo | Iria Villar, University of Vigo | Angela Rodriguez-Abalde, University of Vigo | Domingo Perez, University of Vigo | Marta Dominguez-Dominguez, Fomento de Construcciones y Contratas S.A. | J. Patino

11:20 am – 11:40 am | Paper No.: 68

THE EFFECT OF USE RESIDUAL PLASTIC LIKE BULKING MATERIALS IN COMPOSTING (II)

Ramon Plana, Ros Roca IMA, S.L. | Virginia Garcia, Ros Roca IMA, S.L. | Juan Ferro, Universidad de Vigo (Spain) | Raquel Barrena, Dpt Enginyeria Quimica – Universitat Autònoma de Barcelona | Carlos Perez, Ros Roca IMA, S.L.

11:40 am – 12:00 pm | Paper No.: 190

THE EFFECT OF MOISTURE CONTENT, BULKING AGENT RATIO AND COMPACTION ON PERMEABILITY AND AIR-FILLED POROSITY IN COMPOSTING MATRICES.

Krystyna Malinska, Czestochowa University of Technology | Tom L. Richard, Pennsylvania State University

SESSION 15C3

Composting – Modelling

Chairman: Katia Lasaridi, Harokopio University of Athens

1:30 pm – 1:50 pm | Paper No.: 187

USING A SPREADSHEET COMPUTER MODEL FOR DESIGN AND MANAGEMENT OF COMPOST SYSTEMS

Harold Keener, Ohio Agr Res and Dev Ctr/The Ohio State University | Fred Michel, Ohio Agr Res and Dev Ctr/The Ohio State University

1:50 pm – 2:10 pm | Paper No.: 22

MANAGEMENT STRATEGIES FOR A FORCED-AERATED COMPOSTING PROCESS : USE OF A NUMERICAL MODEL TO PREDICT AND IMPROVE THE TREATMENT

Anne Tremier, Cemagref | Amaury De Guardia, Cemagref Rennes France | Jean-Luc Martel, Suez Environnement – CIRSEE

2:10 pm – 2:30 pm | Paper No.: 102

A COMPREHENSIVE AND MANAGEABLE MATHEMATICAL MODEL FOR THE COMPOSTING PROCESS

Francina Solé-Mauri, University of Lleida | Josep Illa, University of Lleida | Domingo Perez, University of Vigo | Albert Magrí, University of Lleida | Francesc X. Prenafeta-Boldú, IRTA | Salustiano Mato, University of Vigo | Xavier Flotats, GIRO CT

2:30 pm – 2:50 pm | Paper No.: 115

INDUSTRIAL APPLICATION OF A NEW RESPIROMETRIC TEST TO DIFFERENT SLUDGE AND ORGANIC WASTE MIXTURES TO BE COMPOSTED

Jean-Luc Martel, Suez Environnement – CIRSEE | Alain Huyard, Suez Environnement – CIRSEE | Monique Allain, Suez Environnement – CIRSEE | Anne Tremier, Cemagref

2:50 pm – 3:10 pm | Paper No.: 236

A MATHEMATICAL MODEL FOR PASSIVELY AERATED COMPOST

Shouhai Yu, University of Alberta | O. Grant Clark, University of Alberta | Jerry Leonard, Edmonton Waste Management Centre of Excellence | Daryl McCartney, University of Alberta

3:10 pm – 3:30 pm | Paper No.: 3

ANALYTICAL METHODS FOR THE DETERMINATION OF THE BIOLOGICAL ACTIVITY OF ORGANIC BIOMASS

Joern Heerenklage, Hamburg University of Technology | Rainer Stegmann, TU Hamburg Harburg

SESSION 15C4

Composting – Characterisation and Processing

Chairman: M. Prasad, B. Sc., M.A., Ph.D., Bord Na Móna

4:00 pm – 4:20 pm | Paper No.: 209

EFFECT OF INCREASED POROSITY ON SHORT ORGANIC ACIDS, BACTERIAL COUNTS AND RESPIRATION RATE DURING COMPOSTING OF ACIDIC ORGANIC WASTE

Road Aasen, Bioforsk Soil and Environmental Division | Anne Bøen, Bioforsk | Ove Bergersen, Bioforsk

4:20 pm – 4:40 pm | Paper No.: 191

THE IMPACT OF PHYSICAL PROPERTIES AND COMPACTION ON BIODEGRADATION KINETICS DURING COMPOSTING.

Krystyna Malinska, Czestochowa University of Technology | Tom L. Richard, Pennsylvania State University

4:40 pm – 5:00 pm | Paper No.: 37

ROLE OF AERATION RATE, AGITATION, AND MIXING RATIO IN FED BATCH COMPOSTING REACTOR: PRE-TEST STUDY

Banjarata Jolanun, Rajamangala University of Technology Lanna, Thailand. | Sirintornthep Towprayoon, King Mongkut's University of Technology Thonburi, Thailand.

SESSION 15D1

Miscellaneous Waste

Chairman: Prof. Dr.-Ing. habil. W. Bidlingmaier, Bauhaus-Universität Weimar

8:30 am – 8:50 am | Paper No.: 84

WASTE PLASTIC FOR ART

Nella Kumafo, Kwame Nkrumah University of Science and Technology, Kumasi-Ghana

8:50 am – 9:10 am | Paper No.: 229

SUSTAINABLE WASTE MANAGEMENT FOR THE SOCCER STADIUM IN MUNICH

Ulrike de Bertoldi-Schnappinger, Dr.-Ing. Schnappinger und Partner

9:10 am – 9:30 am | Paper No.: 15

EX SITU SOLID-PHASE BIOREMEDIATION WITH COMPOST ADDITION FROM MSW: EXPERIMENTAL TEST SERIES AT PILOT-SCALE ON DIESEL-CONTAMINATED SOILS

Maurizio Ciani, Science Faculty, Polytechnic-University of Marche, I | M. Taccari, Environmental Science Faculty, University of Urbino “Carlo Bo”, I | Fabio Tatàno, Environmental Science Faculty, University of Urbino “Carlo Bo”, I | F. Mangani, GESENU S.p.A., I | L. Lattanzi, SECIT S.p.A., I | F. Valentini | Alessandro Canovai

SESSION 15D2**Renewable Energy**

Chairman: C. Visvanathan, PhD,
Asien Institute of Technology

10:00 am – 10:20 am | Paper No.: 87

**RENEWABLE ENERGY USING BIOGAS FROM SEWAGE
SLUDGE: A CASE STUDY OF POTENTIAL AT SHAH ALAM
SEWAGE TREATMENT PLANT, MALAYSIA**

Aminuddin Baki, Faculty of Civil Engineering, Universiti Teknologi Mara, Malaysia | Suhaimi Abdul-Talib, Faculty of Civil Engineering, Universiti Teknologi Mara, Malaysia | Mohamed Haniffa Abdul Hamid, Indah Water Konsortium Sdn. Bhd., Malaysia | Bee Chin Khor, Indah Water Konsortium Sdn. Bhd., Malaysia | Abdul Rahim Abdul Jabbar, Indah Water Konsortium Sdn. Bhd., Malaysia

10:20 am – 10:40 am | Paper No.: 153

BIOMASS ENERGY: BANGLADESH PERSPECTIVE

Kamal Hossain, Institute for Environment and Development Studies

10:40 am – 11:00 am | Paper No.: 173

**A BIOMASS BOILER FOR COGENERATION AT A | PAPER
MILL**

Eiji Ishikawa, Ebara Corporation | Shigeru Kosugi, Ebara Corporation | Shunji Suzuki, Ebara Corporation

11:00 am – 11:20 am | Paper No.: 243

**THE POTENTIAL TO GAIN ENERGY FROM DIGESTING THE
LIQUID PHASE OF ORGANIC WASTE**

Thomas Wirthensohn, Bauhaus-Universität Weimar | Daniel Sperl, Bauhaus-Universität Weimar | Heribert Insam, Leopold-Franzens-Universität Innsbruck

11:20 am – 11:40 am | Paper No.: 48

**POTENTIAL ANALYSIS FOR ORGANIC WASTES TO BE
USED FOR CO-DIGESTION ON MUNICIPAL WASTEWATER
TREATMENT PLANTS IN NORTH-RHINE-WESTFALIA
(NRW)**

Ruth Brunstermann, Universität Duisburg-Essen, Department of Waste Management and Waste Technology | Renatus Widmann, Universität Duisburg- Essen Abfallwirtschaft/Abfalltechnik

11:40 am – 12:00 pm | Paper No.: 280

**PERFORMANCE OF A LABORATORY-SCALE DICOM®
REACTOR – A NOVEL HYBRID AEROBIC/ANAEROBIC
MUNICIPAL SOLID WASTE TREATMENT PROCESS**

Lee Walker, Environmental Biotechnology Pty Ltd ,Murdoch University | Wipa Charles | Ralf Cord-Ruwisch

SESSION 15D3**Renewable Energy**

Chairman: Kositanont Charnwit, PhD,
Inter-department of Environmental Science

1:30 pm – 1:50 pm | Paper No.: 154

**DEVELOPMENT OF TWO-PHASE PROCESS FOR PRODUC-
ING HYDROGEN AND METHANE FROM POTATO PRO-
CESSING WASTE WITHOUT DILUTION WATER**

Tatsuya Noike, Nihon University | Mika Ohba, Tohoku University | Yu-You Li, Tohoku University

1:50 pm – 2:10 pm | Paper No.: 13

**FERMENTATIVE PRODUCTION OF BIOHYDROGEN FROM
ORGANIC RAW AND WASTE MATERIALS**

Dorothea Zurawski, Technische Universität Hamburg-Harburg | Mareike Meyer, Technische Universität Hamburg-Harburg | Rainer Stegmann, TU Hamburg Harburg

2:10 pm – 2:30 pm | Paper No.: 45

**OPERATING EXPERIENCES OF A CONTINUOUS BIOHY-
DROGEN PRODUCTION REACTOR USED FOR ANAEROBIC
DIGESTION OF ORGANIC WASTES**

Michaela Krupp, University of Duisburg-Essen, Department of Waste Management | Ulrich Kauth, University of Duisburg-Essen, Dep. of Waste Management | Renatus Widmann, Universität Duisburg- Essen Abfallwirtschaft/Abfalltechnik

2:30 pm – 2:50 pm | Paper No.: 126

**DARK FERMENTATIVE HYDROGEN PRODUCTION AT
THERMOPHILIC TEMPERATURE-EFFECT OF PH**

Baris Calli, VITO NV | Karolien van Broekhoven, VITO

SESSION 15D4**Climate Change**

Chairman: Prof. Dr.-Ing. R. Stegmann,
Technische Universität Hamburg-Harburg

4:00 pm – 4:20 pm | Paper No.: 119

GREENHOUSE GAS EMISSIONS FROM BACKYARD AND WINDROW COMPOSTING

Florian Amlinger, KEB Compost – Consulting & Development,
Perchtoldsdorf, Austria | Stefan Peyr, Kompost – Entwicklung &
Beratung

4:20 pm – 4:40 pm | Paper No.: 211

THE POTENTIAL CONTRIBUTION OF BIOWASTE TO TACKLE CLIMATE CHANGE: SHORTCOMINGS OF LIFE CYCLE ANALYSIS CONCERNING BIOWASTE AND RELEVANCE TO POLICY-MAKING.

Enzo Favoino, Scuola Agraria del Parco di Monza | Dominic Hogg,
EUNOMIA Research & Consulting

4:40 pm – 5:00 pm | Paper No.: 244

METHANE OXIDATION AND KYOTO MECHANISMS: NEW PERSPECTIVES FOR THE FURTHER MINIMIZATION OF GREEN HOUSE GAS EMISSIONS FROM LANDFILLS?

Heike Santen, Technische Universität Braunschweig | Tobias Bahr,
Technische Universität Braunschweig | Klaus Fricke, TU
Braunschweig

SESSION 15ANS1**Technologietransfer Restabfallbehandlung/
Biomassenutzung | Technology Transfer Residual
Waste Treatment/Biomass Use**

Chairman: Rdir. Dr. Klaus Bergs, Bundesministerium
für Umwelt, Naturschutz und Reaktorsicherheit

8:30 am – 8:50 am | Paper No.: 297

STAND DER ANAEROBTECHNIK BEI DER RESTABFALLBEHANDLUNG IN EUROPA | STATUS QUO OF ANAEROBIC TECHNOLOGY IN RESIDUAL WASTE TREATMENT IN EUROPE

Thomas Turk, Ingenieurgemeinschaft Witzenhausen

8:50 am – 9:10 am | Paper No.: 298

STAND DER MECHANISCH-BIOLOGISCHEN RESTABFALLBEHANDLUNG IN ENGLAND | STATUS QUO OF MECHANICAL-BIOLOGICAL RESIDUAL WASTE TREATMENT IN ENGLAND

H. Bulson, ORA United Kingdom

9:10 am – 9:30 am | Paper No.: 299

CLEAN DEVELOPMENT MECHANISM (CDM) – CHANCE FÜR DEN TECHNOLOGIETRANSFER IN DER ABFALLWIRTSCHAFT | OPPORTUNITY FOR TECHNOLOGY TRANSFER IN WASTE MANAGEMENT

Wolfgang Pfaff-Simoneit, Kreditanstalt für Wiederaufbau

SESSION 15ANS2**Technologietransfer Restabfallbehandlung/
Biomassenutzung | Technology Transfer Residual
Waste Treatment/Biomass Use**

Chairman: Rdir. Dr. Klaus Bergs, Bundesministerium
für Umwelt, Naturschutz und Reaktorsicherheit

10:00 am – 10:20 am | Paper No.: 300

KOOPERATIONSMODELL: ABFALLWIRTSCHAFTSGESSELLSCHAFT DES NECKAR-ODENWALD-KREISES MBH UND XINYUAN CITY DEVELOPMENT LTD. VR CHINA | CO-OPERATION MODEL: WASTE MANAGEMENT SOCIETY OF NECKAR-ODENWALD-KREISES MBH AND XINYUAN CITY DEVELOPMENT LTD. PR CHINA

Mathias Ginter, AWN GmbH

10:20 am – 10:40 am | Paper No.: 301

MBA UND METHANGASOXIDATION ALS CDM-PROJEKT IN GAOBEIDIAN (VR CHINA) | MECHANICAL-BIOLOGICAL PLANTS AND METHANE GAS OXIDATION AS A CDM PROJECT IN GAOBEIDIAN (PR CHINA)

Tobias Bahr, Technische Universität Braunschweig | Heike Santen,
Technische Universität Braunschweig

10:40 am – 11:00 am | Paper No.: 302

VERTRAGLICHE BESONDERHEITEN UND PROJEKTMANAGEMENT IM AUSLANDSGESCHÄFT | SPECIAL CONTRACT TERMS AND PROJECT MANAGEMENT IN BUSINESS ABROAD

Christopf Werner, AWEPA Werner & Partner, München

11:00 am – 11:20 am | Paper No.: 306

PROJEKTBEISPIELE TECHNOLOGIETRANSFER | PROJECT EXAMPLE TECHNOLOGY TRANSFER

N.N.

11:20 am – 11:40 am | Paper No.: 306

PROJEKTBEISPIELE TECHNOLOGIETRANSFER | PROJECT EXAMPLE TECHNOLOGY TRANSFER

N.N.

11:40 am – 12:00 pm | Paper No.: 306

PROJEKTBEISPIELE TECHNOLOGIETRANSFER | PROJECT EXAMPLE TECHNOLOGY TRANSFER

N.N.

SESSION 15PS1

Plenary Session

Chairman: N.N.

SESSION POSTER

Postersession

Paper No.: 10

CHARACTERIZATION OF LEACHATE FROM MUNICIPAL SOLID WASTE DISPOSAL SITES IN BANGLADESH

Muhammed Alamgir, Khulna University of engineering & Technology, Bangladesh | Kazi Abu Bakar Mohammad Mohiuddin, Khulna University of engineering & Technology, Bangladesh | Amimul Ahsan, Khulna University of engineering & Technology, Bangladesh | Karl Ernst Roehl, Karlsruhe University, Germany |

Paper No.: 17

THE CASE OF KANYAMA COMPOUND FOR DECENTRALISED ENERGY GENERATION IN LUSAKA, ZAMBIA

Wilson Shane, UNESCO-IHE Institute for Water Education, Delft, Netherlands | Annette Ochs, UNESCO-IHE Institute for Water Education, Delft, Netherlands

Paper No.: 21

ASSESSING CURRENT STATUS OF MUNICIPAL SOLID WASTE DISPOSAL FACILITIES OF TAMILNADU

Jayanthi Singaram, Assistant Professor in Civil Engineering, GCT COIMBATORE | Venkatesh Neelakantan, PG Student in Thermal Engineering, GCT COIMBATORE | Arunprasad Elavarasan, PG Student in Thermal Engineering, GCT COIMBATORE

Paper No.: 67

THE EFFECT OF USE RESIDUAL PLASTICS LIKE BULKING MATERIAL IN COMPOSTING (I)

Ramon Plana, Ros Roca IMA, S.L. | Carlos Perez, Ros Roca IMA, S.L.

Paper No.: 73

EFFICIENCY OF AEROBIC DIGESTER FOR SLUDGE STABILIZATION IN SERKAN CITY SEWAGE TREATMENT PLANT (IRAN)

Mahdi Farzadkia, Assistant Professor

Paper No.: 90

COMPOST QUALITY PARAMETERS: EVALUATION ON A LABORATORY-SCALE DEVELOPED MATERIAL

Domingo Perez, University of Vigo | Jorge Dominguez, University of Vigo | Salustiano Mato, University of Vigo | Ramon Plana, Ros Roca IMA, S.L.

Paper No.: 96

INTEGRATING COMPOSTING INTO THE FORESTRY TECHNIQUES: THE EXPERIENCE OF THE MOS COUNCIL (PONTVEDRA, SPAIN)

Salustiano Mato, University of Vigo | Elena Polo, University of Vigo | Domingo Perez, University of Vigo | David Cereijo, University of Vigo

Paper No.: 97

VERMICOMPOSTING AS A MATURITY PROCESS FOR FRESH COMPOSTS

Domingo Perez, University of Vigo | Jorge Dominguez, University of Vigo | Salustiano Mato, University of Vigo

Paper No.: 112

IMPROVEMENT OF FOOD WASTE DEGRADATION RATE BY MIXED CULTURES ISOLATED FROM COMPOST AND COMPOST STARTER

Sivawan Phoolphundh, King Mongkut University of Technology Thonburi, Thailand | Pimpak Panphothong, King Mongkut University of Technology Thonburi, Thailand | Ploensiri Sripol, King Mongkut University of Technology Thonburi, Thailand

Paper No.: 116

COMPOSTING DYNAMICS OF FARM WASTES UNDER ON – FARM TRADITIONAL AND MODERN TECHNIQUES

Ghulam Jilani, University of Arid Agriculture, Rawalpindi, Pakistan | Saftain Ullah, University of Arid Agriculture, Rawalpindi, Pakistan | Xu Jianming, Zhejiang University, Hangzhou, China | Arshad Nawaz, University of Arid Agriculture, Rawalpindi, Pakistan | Muhammad Akram, British Cotton Growers Association, Khanewal, Pakistan

Paper No.: 121

DEVELOPMENT OF INTEGRATED WASTE MANAGEMENT SYSTEMS IN SOUTH AFRICA – LIMPOPO

Manja Schubert, Bauhaus-Universität Weimar | David Berger

Paper No.: 142

NITROGEN MINERALIZATION FROM ORGANIC FARMING FERTILIZERS APPLIED TO A SANDY LOAM SOIL

Fernanda Cabral, Instituto Superior de Agronomia – Lisboa, Portugal | Henrique Ribeiro, Instituto Superior de Agronomia – Lisboa, Portugal | Ernesto Vasconcelos, Instituto Superior de Agronomia – Lisboa, Portugal | Cláudia Cordovil, Instituto Superior de Agronomia – Lisboa, Portugal | Ana Cunha-Queda, Instituto Superior de Agronomia – Lisboa, Portugal

Paper No.: 144

OPTIMIZATION OF THE N-REMOVAL PROCESS IN WASTEWATER WITH LOW C/N RATIO

Martin Denecke, University Duisburg-Essen | Silke Buschmann, University Duisburg-Essen | Uwe Walter, AGR Essen | Volker Rekers, LAMBDA

Paper No.: 196

DEVELOPING A SET OF DEVICES FOR CREATING AN EMISSION PROGNOSIS FOR PLANNING A COMPOSTING PLANT

Kaukab Harba, Bauhaus-Universität Weimar | Werner Bidlingmaier, Bauhaus-Universität Weimar

Paper No.: 202

ANALYSIS OF THE RESULTS OF THREE YEARS OF OPERATIONS AT THE MASSAFRA, ITALY MBT PLANT

Antonio Albanese, C.I.S.A. S.p.A. | Luigi Castelli, Ecomaster Atzwanger S.p.A.

Paper No.: 205

ALTERNATIVE SCENARIOS FOR COMBUSTIBLE WASTE MANAGEMENT IN FINLAND

Helena Dahlbo, Finnish Environment Institute | Antti Tohka, Finnish Environment Institute | Jyrki Tenhunen, Finnish Environment Institute | Tuuli Myllymaa, Finnish Environment Institute

Paper No.: 233

DISTRIBUTION OF CHLORAMPHENICOL IN SHRIMP POND SOILS

S. Pengprecha, Chulalongkorn University | P. Pengprecha, Chulalongkorn University | S. Krisanasuwan, Chulalongkorn University

Paper No.: 239

EFFECTIVENESS OF ALTERNATIVE FUELS RELATING TO THE USE OF OIL DERIVED

Filippo Randelli, University of Florence (Italy)

Paper No.: 311

THE SUITABILITY OF BRACKISH WATER AQUACULTURE SLUDGE FOR ANAEROBIC DIGESTION AND METHANE PRODUCTION IN AN UP-FLOW ANAEROBIC SLUDGE BLANKET (UASB) REACTOR

Natella Mirzoyan, Ben-Gurion University of the Negev | Shmuel Parnes, Ben-Gurion University of the Negev | Alon Singer, Ben-Gurion University of the Negev | Amit Gross, Ben-Gurion University of the Negev

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