



Recovery of Materials and Energy for Resource Efficiency

September 3-5, 2007, Davos, Switzerland

# R'07 World Congress, Davos, Switzerland, September 3 – 5, 2007

Recovery of Materials and Energy for Resource Efficiency

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## Final Program of Presented Posters

Poster No. Titel

- 1** **Materials and Energy Efficiency in Process Engineering**
- 1.1 **Ultrasonic Characterisation of Welds Using Velocity, Attenuation and Hardness Measurements of Layers.**  
Boukazouha, Faiza, Algeria
- 1.2 **Glulam Cross Arms Using Reforested Wood: An Efficient Engineering Material**  
Calil Junior, Carlito, Brazil
- 1.3 **Recovery of Methane-rich Gas from Solid-feed Anaerobic Digestion of the Pernicious Weed Ipomoea (Ipomoea carnea)**  
Ganesh, P. Sankar, India
- 1.4 **The Challenge of Treating Low-Strength Effluents by Upflow Anaerobic Sludge Blanket (UASB) Reactor and the Application of the Technique to Dairy Industry Wash Waters**  
Ganesh, P. Sankar, India
- 1.5 **The Study of NO Emission of Fixed Bed Combustion of Coal**  
He, Jingdong, China; presented by Zhu, Tingyu, China
- 1.6 **Development of Environmentally Benign Heat Supply System Using Heats of Mixing in Critical Region of Carbon Dioxide**  
Matsuda, Hiroyuki, Japan
- 1.7 **Mineralogy of Materials: Tool for the Optim Design to Construction Materials**  
Morales Alfaro, Mary Patricia, Peru
- 1.8 **Preparation and Characterization of Nanosized Solid Superacid SO<sub>4</sub><sup>2-</sup>/ZrO<sub>2</sub> and S<sub>2</sub>O<sub>8</sub><sup>2-</sup>/ZrO<sub>2</sub> for the Catalytic Bamberg Rearrangement**  
Wang, Shufang, China
- 1.9 **Study on Flue Gas from Mixed Incineration of Chinese Municipal Solid Waste and Coal in a 1.5 MW Circulating Fluidized Bed Boiler**  
Zhu, Tingyu, China



## **2 Materials Recycling and Re-Integration in Manufacturing Industry**

- 2.1 Integrated Solution for Renewable Biomass Process and Byproducts Valorization for Local Energetically Autonomy in Romanian Agricultural Farms**  
Albulescu, Carmen, Romania
- 2.2 Treatment and Valorization of Polishing and Glazing Ceramic Sludges**  
Andreola, Fernanda, Italy; presented by Barbieri, Luisa
- 2.3 Monolithic Concrete Houses of Recycled Glass**  
Engi, Daniel, Switzerland
- 2.4 Effect of Some Technological Treatments and Addition of Fungal Pectinase on the Yield and Quality Parameters of Olive Oil Extracted by Centrifugation**  
Gibriel, Ahmed, Egypt
- 2.5 Resource Recovery of Phosphorous from Wastewater by Hydrothermal Mineralization**  
Imaizumi, Haruki, Japan
- 2.6 Resource Recovery and Detoxification of Wastewater Containing Hazardous Oxoanions by Hydrothermal Mineralization**  
Itakura, Takeshi, Japan
- 2.7 The Problem of Chromium Waste Produced by Leather Industry**  
Kolomazník, Karel, Czech Republic; presented by Michaela Uhlířová
- 2.8 Composit Material Based on Recycled Tires and Polymer Binder**  
Malers, Laimonis, Latvia
- 2.9 Investigation of Fly Ash Blocks Behavior During Thermal Exposure and their Fire Insulating Capacity**  
Matsas, Dionysios, Greece
- 2.10 Dechromation of Chromium Sludges During the Processing of Chromium-tanned Waste from Leather Industry**  
Matyašovský, Ján, Slovakia
- 2.11 Resource Recovery of Si/Al Components and Unburned Carbon in Coal Fly Ash**  
Miyake, Michihiro, Japan
- 2.12 The Influence of Vacuum-Plasma Coverings on Speed Isothermal and Thermocycle Creep of Titanic Alloy**  
Petrenko, Anatolii, Ukraine
- 2.13 Thermal Cracking of Waste PET in Presence of Radical Donors**  
Stanica-Ezeanu, Dorin, Romania
- 2.14 A Novel Combined Process for Reuse Nitrogen Oxides from the Flue Gas**  
Wu, Zhongbiao, China
- 2.15 Study on Hydrating Activity of Fine Construction and Demolition Waste**  
Xing, Weihong, China

## **3 Materials and Energy Recovery from Post-consumer Waste**

- 3.1 Air-assisted Solvent Extraction of Methyl Iso-butyl Ketone(MIBK) from Simulated Wastewater**  
Bo, Xiao, China; Chang, Zhidong, China; Liu Huizhou, China
- 3.2 Characterisation and Quantification of "Car Fluff" Flow Aimed to its Valorisation**  
Morselli, Luciano, Italy



**3.3 Recovery of Industrial Materials from the Wastes of Processed Finfish and Shellfish of India**  
Santhanam, Ramasamy, India

**3.4 An Assessment of Sewage Sludge Processing Options in the Region of Turku, Finland**  
Sipilä, Johan, Finland, presented by Zevenhoven, Ron, Finland

**3.5 Processing and Recycling of Construction and Demolition Waste**  
Xing Weihong, China

## **4 Separation Technologies and their Energy Efficiency**

**4.1 Lead Extraction from Contaminated Soil Using Plants**  
Ulmanu, Mihaela, Romania; presented by: Anger, Ildiko Elisabeta, Romania

## **5 Safe and Environmentally Sound Disposal**

**5.1 Mobilization of Heavy Metal from Mining Wastes by their Covering with Soil and Phytoremediation**  
Bogatu, Corneliu, Romania, presented by Smaranda, Masu, Romania

**5.2 Feasibility Study of Implementation of Integrated Solid Waste Management in Three Northern Provinces of Iran**  
Kamalan, Hamidreza, Iran

**5.3 Some Recommendations to Solve Medical Wastes Problem in Bangladesh**  
Motalib, Ahsan, Bangladesh

**5.4 Heavy Metals Bioaccumulation by Iranian and Australian Earthworms (*Eisenia fetida*) in the Sewage Sludge Vermicomposting**  
Pourmoghadas, Hossein, Iran

**5.5 Drainage Pumping Stations in Vojvodina Province**  
Rajkovic, Milica, Yugoslavia

## **6 Design for Recycling, Product-Service Systems, Dematerialization**

**6.1 Recycling Technology of Municipal Waste Molten Slag Contained Metallic Aluminum to the Concrete Aggregate**  
Suzuki, Kenzi, Japan

## **7 Secondary Materials and their Markets**

**7.1 Basic Aspects of Ecological and Economical Industrial Waste Materials Exploitation**  
Ledererová, Jaroslava, Czech Republic

**7.2 Supply, Utilization, Production Processes and Trends of Demand of FGD Gypsum in China**  
Wu, Zhongbiao, China

## **8 Supply Chains and Transport Demand, Waste Collection Logistics**

**8.1 Waste Collection and Management for Employment Generation in Kolkata Mega-City, India**  
Bera, Ajitkumar, India



**9 Resource Statistics, Material Flow Analysis, Information Systems**

- 9.1 **Human Health Risk Assessment Associated to the Emissions from a Landfill**  
Morselli, Luciano, Italy

**10 Life Cycle Assessment, Modeling, Simulation**

- 10.1 **The Economy of Zero Waste Management Systems – Case Studies in Private and Public Sector Applications**  
Huls, J. Michael, United States of America

- 10.2 **Life Cycle Inventory Analysis of Biomass Conversion Plant Installed in Miyako Island, Japan**  
Kameyama, Koji, Japan

**11 Recycling Schemes and Incentive Structures**

- 11.1 **Critical Analysis of the Separate Collection Service in Emilia Romagna Region**  
Morselli, Luciano, Italy

- 11.2 **Waste Collection & Recycling – A Case Study on Mobile Waste Collectors in Sri Lanka**  
Patabendi, Prabhath, Sri Lanka

- 11.3 **Towards Sustainable Waste Management in Malaysia**  
Saat, siti Aisyah, United Kingdom

- 11.4 **Knowledge Platform PET Recycling**  
Schelker, Raymond, Switzerland

- 11.5 **Preparation and Application of a Novel Adsorbent for Phosphate Removal from Aqueous Solution**  
Tang, Yankui, China; presented by Tong, Zhangfa, China

**12 The Social Compatibility of Recycling Systems**

- 12.1 **Research on Household Recycling Behavior of Waste Household Appliances and Electronics: A Case of Shanghai**  
Zhao, Xu, China, presented by: Lu Yingying, China

**13 Training and Education for Saving Resources**

- 13.1 **Nine Source Generating Categories as a Means of Characterizing Discard Supply – Training Applications for College Students**  
Huls, J. Michael, United States of America

- 13.2 **Non-formal Education for Fisherfolk for Saving Threatened Ornamental Fishes of Gulf of Mannar, India**  
Xavier Sesu Rajam, Maria