



Recovery of Materials and Energy for Resource Efficiency

September 3-5, 2007, Davos, Switzerland

Call for Papers

Aims and Scope

The R'07 World Congress promotes innovative technologies and frameworks to improve material and energy efficiencies in the production, use, and recycling of materials.

R'07 addresses experts from science and engineering, from supply and recycling industries, from public authorities and international organizations in order to stimulate closer cooperation of the various disciplines and stakeholders across the materials life cycle.

It aims to improve material and energy efficiencies in industry, including energy supply, cement and building materials, metallurgical, chemical, glass, pulp and paper, machinery, the automobile and electronic industries as well as activities of collection, sorting, further treatment and final disposal of post-consumer material.

Environmental issues will be addressed where they are related to improving materials and energy efficiency and minimizing disposal, including the integration of renewable energy and biomass into the production chain.

R'07, organized by Empa Materials Science and Technology in cooperation with the Swiss Academy of Engineering Sciences (SATW), is the 8th event in the bi-annual R' World Congress series.

Venue

R'07 will take place at the Congress Center of Davos, Switzerland, Europe's highest altitude holiday and congress town. The Congress Center has been the home of the World Economic Forum for many years.



Types of Contributions

- Oral presentations (15 Min plus discussion)
- Poster presentations (90 x 120 cm)
- Contributions to Workshops

The scientific committee will decide upon acceptance of a contribution and will select it as an oral or poster presentation. The panel may also assign submitted contributions to specific workshops.



Deadlines

- Deadline for the submission of abstracts:
November 15, 2006
- Notification of acceptance or non-acceptance:
February 2007
- Publication of preliminary program:
March 2007
- Registration deadline for authors:
March 31, 2007
- Deadline for the submission of full papers or posters:
May 15, 2007
- R07 World Congress:
September 3-5, 2007

Submission Procedure

Papers of either theoretical or applied nature can be submitted online by using the «Abstract Submission» form provided at the Congress Website: www.r07.org

Contributions should clearly address one of the topics of interest listed below and should not have been previously presented at international conferences or published in international journals. Contributions from emerging economies are particularly welcome. Final acceptance of any contribution requires registration of the author to the congress.

Language

The conference language is English.



Topics of Interest

Technology Development

- Materials and Energy Efficiency in Process Engineering
- Materials Recycling and Re-Integration in Manufacturing Industry
- Materials and Energy Recovery from Post-consumer Waste
- Separation Technologies and their Energy Efficiency
- Input/Output Control and Secondary Materials Quality Assurance
- Safe and Environmentally Sound Disposal

Closed-loop Economy

- Design for Recycling, Product-Service Systems, Dematerialization
- Secondary Materials and their Markets
- Supply Chains and Transport Demand, Waste Collection Logistics
- Resource Statistics, Material Flow Analysis, Information Systems
- Life Cycle Assessment, Modeling, Simulation

Political, Legal and Social Frameworks

- Recycling Schemes and Incentive Structures
- Urban Development, Site Selection, Industrial Networks
- International Trade Policy and Material Flows
- The Social Compatibility of Recycling Systems
- Training and Education for Saving Resources

Scientific Committee

- Prof. Dr. Lorenz Hilty, Empa, Technology and Society Lab, Switzerland (Chairman)
- Richard Anthony, Richard Anthony Associates, USA
- Conrad M. Bader, ISWA Switzerland and Von Roll Environmental Technology Ltd, Switzerland
- Prof. Mario Bassan, PhD, Politecnico di Milano, Technical University, Building Environment Sciences and Technology, Italy
- Dr. Peter Baumgartner, Office for Environmental Protection and Nature Conservation of the Canton of Grisons, Switzerland
- Prof. Renato Bonora PhD, University of Padua, Department of engineering's Chemical processes, Italy
- Hans de Groot, TNO Science and Industry, The Netherlands
- Prof. Dr. Enrico Drioli, Institute on Membrane Technology, Italy
- Dr. Xaver Edelmann, Empa, Department Information, Reliability and Simulation Technology, Switzerland
- Prof. Jess Everett PhD, Rowan University, USA
- Prof. Dr. Martin Führ, Sonderforschungsgruppe Institutionenanalyse, Social and Cultural Studies, University of Applied Sciences Darmstadt, Germany
- Dr. Thomas Gevert, SP, Sweden
- Gerry Gillespie, Department of Environment and Conservation – New South Wales, Australia
- Dr. Christian Hagelüken, Umicore Precious Metals Refining, Germany
- Prof. Dr. Stefanie Hellweg, ETH Zurich, Institute of Environmental Engineering, Switzerland
- Dr. Christoph Herrmann, Technical University Braunschweig, IWF, and KERP Center of Excellence, Germany and Austria
- Prof. Edgar Hertwich PhD, Norwegian University of Science and Technology, Industrial Ecology Program, Norway
- Dr. Peter Hofer, Empa, Department Mobility, Energy and Environment, Switzerland
- Prof. Dr. Jinghai Li, Chinese Academy of Sciences, China
- Prof. Dr. Kunthala Jayaraman, Vellore Institute of Technology, Centre for Biotechnology, India
- Prof. Dr. Konstantinos Karatzas, Aristotle University of Thessaloniki, Department of Mechanical Engineering, Greece
- Dr. Florian Kongoli, Flogen Technologies Inc., Canada
- Prof. Dr. Christian Ludwig, Swiss Federal Institute of Technology at Lausanne and Paul Scherrer Institut, Joint Professorship on Solid Waste Treatment, Laboratory for Energy and Materials Cycles, Switzerland
- Dr. Neil Mayne, Belgium
- Prof. Luciano Morselli, University of Bologna, Industrial and Materials Chemistry, Italy
- Prof. Michael Overcash, PhD, North Carolina State University, Chemical and Biomolecular Engineering Department, USA
- Dr. Martin Patel, Utrecht University, Department of Science, Technology and Society (STS) and Copernicus Institute, The Netherlands
- Prof. Dr. Lothar Reh, Switzerland
- Prof. Markus Reuter PhD, University of Melbourne, Department of Chemical Engineering, Australia
- Prof. Dr. Philipp Rudolf von Rohr, ETH Zurich, Institute of Process Engineering, Switzerland
- Dr. Arthur Ruf, SATW, Swiss Academy of Engineering Sciences, Switzerland
- Dr. Ivan Sarwar, Foundation „Applied Researches and Social Support“, Ukraine
- Dr. Satyawati Sharma, CRDT, Indian Institute of Technology Delhi, India
- Dr. Vinod Kumar Sharma, ENEA (Italian Agency for New Technology, Energy and the Environment), Solar Thermal Laboratory and Biomass Division, Italy
- Dr. Franz-Georg Simon, Federal Institute for Materials Research, Germany
- Dr. Samuel Stucki, PSI, Laboratory for Energy and Materials Cycles, Switzerland
- Dr. Patrick Wäger, Empa, Technology and Society Lab, Switzerland
- William Worrell, San Luis Obispo County Integrated Waste Management Authority, USA
- Prof. Dr. Ron Zevenhoven, Abo Akademi University, Heat Engineering Laboratory, Finland
- Christian Zurbrugg, Eawag, Department of Water and Sanitation in Developing Countries (Sandec), Switzerland

Background

Global economic growth under the condition of limited raw material and energy resources requires technological and institutional innovations for the materials life cycle. High recovery rates of materials from pre- and post-consumer wastes, their optimal re-integration into various industrial production chains and high energy efficiency in all phases of the life cycle are prerequisites for sustainable development.

Therefore, optimal solutions for the trade-off between closing material loops and saving energy for processing and transport have to be found. This may involve integrated resource management and improved information processing, as well as innovation at the level of technological processes, products, product-service systems, and institutional frameworks.

The R'07 World Congress is the best place to exchange ideas about technologies and frameworks for sustainable material life cycles.



Organization

Chair of Steering Committee

Dr. Xaver Edelmann, Empa
xaver.edelmann@empa.ch

Chair of Scientific Committee

Prof. Dr. Lorenz Hilty, Empa
lorenz.hilty@empa.ch

Congress Secretariat

Maria Schönenberger and
Therese Bracher
R07@empa.ch

Organized in cooperation with

Swiss Academy of Engineering Sciences
www.satw.ch

Congress Website

www.r07.org

SATW

Schweizerische Akademie der Technischen Wissenschaften
Académie suisse des sciences techniques
Accademia svizzera delle scienze tecniche
Swiss Academy of Engineering Sciences



Materials Science & Technology