

## **International Symposium on Anaerobic Digestion of Solid Waste and Energy Crops (ADSW&EC) 2011, Vienna**

The International Symposium on Anaerobic Digestion of Solid Waste and Energy Crops (ADSW&EC) took place from the 28<sup>th</sup> of August to the 1<sup>st</sup> of September 2011 at the Vienna University of Technology (TU-Wien).

The conference was organised by the University of Natural Resources and Life Sciences Vienna (BOKU Wien) together with the Vienna University of Technology (TU-Wien). The initiator of the conference was the working group for anaerobic digestion from the the Institute of Environmental Biotechnology at the Department for Agrobiotechnology (IFA-Tulln). The chair of the conference was Günther Bochmann, leader of the working group anaerobic digestion; The co-chair was Prof. Karl Svoldal of the Institute of Water Quality, Resources and Waste Management at the Vienna University of Technology. All in all 292 people from 34 different countries, including a 20-member delegation from Peru, participated. Furthermore, 90 presentations were held and 77 posters presented, one plenary discussion and 7 key note speeches in three days.

Within these days, delegates and experts in biogas and energy crops presented and discussed their research results, tried to establish contacts, find solutions and work together on the topics of biogas out of solid waste and energy crop. In addition, process control and optimisation as well as biogas upgrading were discussed. The technical tours provided practical insights into AD as well as into waste and energy management in Austria.

The conference started with the welcome reception on the evening of the 28<sup>th</sup> of August,. Here the participating scientists got together to meet colleagues and biogas experts in an extraordinary atmosphere of the "Kuppelsaal" in the Vienna University of Technology.

The first conference day (29<sup>th</sup> August) went ahead with the opening ceremony where Prof. Josef Ebernhardsteiner, dean of the Faculty of Civil Engineering, and DI Günther Bochmann, chair of the conference, welcomed their guests. The "plenary keynote speeches" were hold by Dr. Leopold Zahrer (Federal Ministry of Agriculture, Forestry, Environment and Water Management), DI Wojciech Rolgalski (City of Vienna, Section Environment MA 48) as well as by Dr. David Baxter (European Commission). The speeches focused on eco-energy and the associated challenges about energy crops and energy supply, as well as on the EU's position concerning green environment. Afterwards the three parallel sessions concentrating on microbiology, co-digestion, additives for AD, pre-treatment and substrates (energy crops and agro waste) took place.

The gala dinner in the Vienna city hall rounded up the first day successfully. The culinary delights were accompanied by classical music from a string quartet.

On the second day (30<sup>th</sup> August), plenary sessions were held by Dr. Jan Stambasky (European Biogas Association) and Wolfgang Urban (Ecologic Institute of Berlin, secondment to Federal Ministry of Environment, Nature Conservation and Nuclear Safety), Prof. Andreas Gronauer (University of Natural Resources and Life Sciences Vienna) and

Prof. Jules B. van Lier (TU Delft). These sessions introduced the day's topics, municipal organic waste, bio-hydrogen and biogas upgrading, in addition to nutrient recovery, modelling, application reports and financing.

The third day (31<sup>st</sup> August) set in motion with talks from Prof. Helmut Kroiss (Vienna University of Technology), Prof. Michael Harasek (Vienna University of Technology), Dr. Arthur Wellinger (European Biogas Association), Klaus Dörninger (OÖ Ferngas) and Paul Schöberl (Wien Energie Gasnetz GmbH) concerning biomethane for city gas grids. The following parallel sessions dealt with the issues: process conditions for waste digestion, digestate treatment and utilization, process control in addition to life cycle assessments, nitrogen in AD and technical innovations. The day ended with the closing ceremony, including conclusions by Prof. Charles Banks (University of Southampton) as well as closing speeches by Prof. Josef Glöckl (University of Natural Resources and Life Sciences Vienna) and Prof. Helmut Kroiss (Vienna University of Technology).

During the conference four workshops were held. These workshops dealt with the topics "AD in the food and beverage industry", "Financing and developing Biogas Projects", "Valorisation of food waste to biogas" and "AD in Developing Countries".

Furthermore, two poster sessions were organised where researchers were able to present their latest results.

During the technical tours (1<sup>st</sup> September) on the last day of the conference, the biogas plants Bruck an der Leitha, St. Margarethen am Moos, Reidling and Zwentendorf were visited. The biogas plant Bruck an der Leitha uses energy crops, agricultural residues and organic waste as substrates for AD, and is particularly of interest as it has a biogas upgrading unit. The biogas plant in St. Margarethen am Moos is an agricultural plant, operated with silage (corn, sunflower and grass) and pig manure. The solid residues are used as fertiliser in vineyards. The plant in Reidling produces biogas out of pig manure and energy crops, which then is burnt in two engines. The thermal energy is fed into the district heating network. The biogas plant Zwentendorf treats waste like kitchen waste, expired food and fat from fat separators but also whey, blood and residues from the biodiesel production. The core elements of this plant are the tubular plug flow digesters. These tours provided practical insights into AD as well as into waste and energy management in Austria.

The field of biogas and energy crops started its success-story in Austria, Germany and Switzerland. The issue "biogas" is a worldwide and very comprehensive challenge. Austria built up know-how and took over a leading position in the biogas sector. Countries, for example Peru, ask Austria's advice and know-how to promote and establish green technology. At the end of 2011 the Institute for Environmental Biotechnology at the Universidad Nacional Agraria La Molina (UNALM) in Lima, Peru, is going to be opened. The Institute is named "Instituto Ambiental Rudolf Braun" to honour the former leader of the Institute for Environmental Biotechnology at the IFA-Tulln. By watching the young biogas

scene it is clear how a former small research field is on its way to becoming a realistic alternative energy source and a fixed part of Austrian's economy and research.



Welcome reception in the **Kuppelsaal** at the Vienna University of Technology



**Günther Bochmann** (Chair of the conference and leader of the AD-working group)



**Technical tour** to the biogas plant Bruck an der Leitha

For more program details please see: <http://www.adswec2011.org/> (Homepage of the ADSW&EC conference), <http://www.ifa-tull.ac.at> (Department IFA Tulln) or <http://www.codigestion.com> (Biogas – Research and Consulting Group).