

Workshop on Sampling, Detection and Quantification of Impurities in Gases from Thermochemical Biomass Conversion Processes - "Gas Analysis Workshop"

International Workshop

June 21st 2012 at 20th EU Biomass Conference and Exhibition, 10.00 – 18.00, MiCo Milano

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This international workshop on gas analysis deals with analytical questions and challenges in the context of product gases from pyrolysis and gasification and of synthesis gases for the various discussed applications. Following last year's workshop in Berlin, which gave an overview on various tar measurement and analysis methods, this workshop will deal more in depth with two major topics. During this one-day-event we will discuss the current status of the off-line tar analysis methods 'tar protocol' and especially the current variants of the SPA-method. Especially the latter one has gained importance and will be very useful in further development of the various on-line methods. A second major issue is related with the detection and analysis of trace elements in synthesis gases. Especially sulphur (H_2S , COS; CS_2 , organic sulphur – thiophenes) and nitrous species (Ammonia) are of importance. Current analytical approaches will be presented and brought to discussion. In the after course of the workshop 2011 it was discussed how the analytical questions in this field of science, research and development could be brought to a better attention. An international working group shall be formed and actions will be discussed within this workshop and at this conference in general.

Workshop Program

Welcome 9:45

Part I 10:00 – 10:15

- **Welcome and Introduction**, York Neubauer, Berlin Institute of Technology, Berlin, Germany

10:15 – 13:00

Off-line sampling and analysis - Guideline (liquid) in comparison with SPA/SPE (solid)

Liquid sampling

- **Tar measurement at VUT** - Solvent Comparison, Ute Wolfesberger-Schwabl (Vienna University of Technology, Vienna, Austria)
- **Reflexions on the existing guideline (and EN) about the sampling and analysis of tar matter from product gas, pyrolysis gas and synthesis gas Sampling on Adsorbents**, Johannes Zeisler, Bioenergy2020+, Graz, Austria

Sampling on adsorbents (SPA/SPE)

- **Tar & (SPA) tar analysis**, Truls Liljedahl (KTH Stockholm, Sweden)
- **Tar analysis by Solid Phase Adsorption (SPA) associated with Thermal Desorption (TD) and Gas Chromatography (GC) analysis**, Eric Masson, [Anthony Dufour](#) (CNRS, Nancy, France)
- **Solid Phase Adsorption (SPA) method for tar and sulphur compounds I**, Sander Grootjes (ECN, Petten, Netherlands)
- short questions of understanding
- **Coffee brake**
- Discussion of liquid and solid adsorption sampling methods

Break for conference session 2DO.5 (Gasification Process Analysis) which includes presentations with analytical background: (13:30 to 15:00 h)

Part II 15:30 – 17:00

Analytical approaches for the characterization of synthesis gases regarding trace elements like sulphur, chlorine, alkali and nitrous species

- **Introduction; description of needs (Parameters, application, type of task)**, Serge Biollaz (PSI, Villigen, Switzerland)
- **PSI toolbox regarding trace elements: Alkali, Cl, metals**, Serge Biollaz (PSI, Villigen, Switzerland)
- **Solid Phase Adsorption (SPA) method for tar and sulphur compounds II**, Sander Grootjes (ECN, Petten, Netherlands)
- **Analytical methods for LT-CFB Gasifiers (Analysis of Chlorine)**, Helge Egsgaard, Zsuzsa Sárossy, Jesper Ahrenfeldt, Risø DTU, Roskilde, Denmark
- **The actual need of a guideline for sampling and analysis of chemical matter (not tars) from product gas, pyrolysis gas and synthesis gas**, Johannes Zeisler, Bioenergy2020+, Graz, Austria
- **Discussion (general Questions from Session 2DO.5) , Task-chem needs of a guideline or methods library for chemical parameters, action plan**

17:00 - 17:15

- **Workshop summary**, York Neubauer

We are looking forward to welcome you to this event and appreciate to join in to the lively discussion about analytical needs in gasification technology.

Information about last year's workshop is available under:

http://www.evur.tu-berlin.de/menue/forschung/veranstaltungen/tar_workshop/parameter/en/

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