

Sus Fuel Cat^o

Sustainable Fuel production by aqueous phase reforming – understanding Catalysis and hydrothermal stability of carbon supported noble metals

Optimising catalysts and materials for the production of hydrogen based on aqueous phase reforming (APR)

Final Conference of the EU-funded SusFuelCat Project

24 November 2016
Enschede, The Netherlands



UNIVERSITY OF TWENTE.

Project SusFuelCat – Overview

Utilizing biomass as a renewable energy source is an important step for reducing Europe's dependence on fossil fuels and decreasing greenhouse gases. Biomass can serve as a base material for energy carriers like hydrogen. One advantage that hydrogen offers over fossil fuels is that when combusted it produces only water vapour instead of CO₂

The EU research project SusFuelCat focuses on the production of hydrogen based on aqueous phase reforming (APR). Catalysts are the key components here and are responsible for efficiently converting biomass into hydrogen.

The goals of SusFuelCat are:

- Production of almost carbon monoxide free hydrogen
- Highly active catalyst with high selectivity towards hydrogen
- Validated long-term stability of catalysts
- Lowering costs of catalysts

The methodology of SusFuelCat is:

- Tuning model catalytic materials for their properties
- Detailed in-situ and ex-situ materials characterization
- Combining computational, in-situ kinetic and long-term experiments
- Testing of model and real raw material feedstock
- Rational catalyst design geared by industrial key performance indicators

Please address further questions about technical information to the Coordinator, Prof. Dr. Bastian Etzold, TU Darmstadt (email etzold@tc1.tu-darmstadt.de) and questions about general information on the project to Dr. Nico Riemann, Bavarian Research Alliance (riemann@bayfor.org).



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Programme outline

The conference targets academics, industrial players and other publics interested in technology take-up. In the morning, delegates will first be provided a number of external keynote speeches that will set the scene. In the afternoon, an overview of the key project aims and results will be given by the Coordinator, followed by presentations by project partners zooming in on the key results.

Invited lecturers

Jean-Paul Lange (Shell Technology Centre, Amsterdam / UT, Enschede):

Aqueous phase catalysis – industrial challenges

The conversion of biomass and, specifically, sugars to fuel and chemicals is often proceeding in an aqueous environment. This poses technical challenges that are new to industrial chemists and engineers that have built their experience in the oil and petrochemical industry.

Léa Vilcocq (CNRS, Lyon): **Transformation of sorbitol in aqueous phase over bifunctional heterogeneous catalysts**

On new catalytic systems based on tungstated oxides for direct transformation of sorbitol (ex-lignocellulose hydrogenated sugar) into light hydrocarbons in aqueous phase

Fernanda Neira D'Angelo (TU Eindhoven): **APR - Catalysis and Reactor Engineering**

Examples of how to optimise reactor configuration for APR, using a multiscale approach.

Pieter Bruijninx (Utrecht University):

APR(-like) reactions of small oxygenates, lignin and whole biomass

On catalyst design and the influence of feed impurities on (crude) glycerol APR for the production of hydrogen and the APR-like conversion of the lignin component of lignocellulosic biomass.

Poster exhibit and session

During the conference posters giving further information and details on project results will be on exhibit. During a dedicated poster session the posters will be presented to the audience.



Practical information

Conference Date and Time

Thursday 24 November 2016, 09:00 – 17:30 hr

Venue

Conference Hotel Drienerburght

Drienerlolaan 5, 7522 NB Enschede, The Netherlands

T: +31 (0)53 433 13 66 E: info@drienerburght.nl W: www.drienerburght.nl

Drienerburght is located at the University of Twente (UT), between Enschede and Hengelo in the east of the Netherlands. See www.utwente.nl/en/contact/route how to get to the UT campus. See Building #44 at the campus map www.utwente.nl/download/campusmap.pdf to get to Conference Hotel Drienerburght.

Fee

Participation in the conference is free of charge and open to all

How to register

You can register for the conference via the registration link on the SusFuelCat website.

Accommodation

Please book your room directly at www.drienerburght.nl. If you use **Access Code SUSFUELCAT**, you can make use of discounted room rates: EUR 75 for a single room/occupancy; EUR 90 for a double room/occupancy; breakfast included, city tax of EUR 1.25 per person per night excluded.

Conference Contacts

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Further information

For further information, visit susfuelcat.eu where additional information will be presented closer to the conference.

