

Energy Lab 2.0 meets Neo-Carbon Energy

Wednesday 15.2.2017 Workshop, 9 - 17

Venue: Hotel Nuuksio (<http://www.hotellinuuksio.fi/>)

General 9:00 - 10:30

Siemens AG, Ralf Krause CO₂ to Value: Electro Catalytic Reduction of CO₂ (60 min)

VTT, Pasi Vainikka Neo-Carbon Energy program, short introduction

IMVT, Roland Dittmeyer Energy Lab 2.0 – Concept and Research Objectives

Coffee break 10:30 - 11:00

Catalysis and gas conversion (I) 11:00 – 13:00

VTT, Juha Lehtonen CO₂ to chemicals

VTT, Noora Kaisalo Biomass gas cleaning by reforming

VTT, Johanna Kihlman Catalyst deactivation by carbon formation

IMVT, Michael Klumpp Hierarchically structured catalysts for one-stage synthesis of dimethyl ether

Lunch break 13:00 - 14:00

Catalysis and gas conversion (II) 14:00 – 16:00

INERATEC, Tim Böltken Decentralized Conversion of Gas-to-Liquids

IMVT, Chenghao Sun Direct syngas to liquid: integration of Fischer-Tropsch synthesis and hydrocracking in micro-structured reactors

IMVT, Marcel Loewert Dynamic operation of Fischer-Tropsch reactors

IMVT, Martin Cholewa A microstructured membrane reactor system for dehydrogenation of liquid organic hydrogen carriers

Poster session 16:00 – 17:00

Outdoor activities 17 - 18:30 (bring appropriate clothing!)

Sauna 18:30 - 20:00

Dinner 20:00...

Thursday 16.2.2017 Workshop, 9 - 18

PtX concepts (I) **9:00 – 10:30**

EBI, Felix Ortloff	Power to Gas activities in Germany
IMVT, Sarvenaz Farsi	Structural reactors for CO/CO ₂ methanation
Francisco Vidal	Modeling of Reverse Water-Gas Shift for Fischer-Tropsch applications

Coffee break **10:30 – 11:00**

PtX concepts (II) **11:00 – 12:30**

VTT, Christian Frilund	SOLETAIR project and the Mobile Synthesis Unit of VTT
VTT, Cyril Bajamundi	Direct air capture of CO ₂ : Opportunities and Challenges
VTT, Jouni Savolainen	Dynamic modelling of PtX concepts

Lunch break **12:30 – 13:30**

Smart energy systems (I) **13:30 – 15:00**

VTT, Kari Mäki	Smarter energy systems enabled by new technologies
IAI, Eric Braun	A new software architecture for a distributed, modular and scalable IT infrastructure of future power system control centers
IAI, Jianlei Liu	Basic concepts of the Energy Lab 2.0 co-simulation platform

Coffee break **15:00 – 15:30**

Smart energy systems (II) **15:30 – 17:30**

ETI, James Barry	Performance and integration of storage systems with photovoltaic plants
LUT, Antti Kosonen	Role of power electronics in electrolyzers
ETI, Marc Hiller	Power Electronics for Medium Voltage Grid Applications – Topologies and Semiconductors
ITEP, Jörn Geisbüsch	Power Hardware in the Loop and its role in the Energy Lab 2.0

Visit to Bioruukki pilot center **17:30 – 19:00**

- gasification and pyrolysis test facilities, mobile synthesis unit

Transfer to a hotel in Helsinki City area