

# 4<sup>st</sup> International Symposium on Chemistry of Energy

## Conversion and Storage

	<b>Sunday, 28 January</b>
14:00 – 16:30	Registration
SESSION 1	
16:30 – 16:50	Opening Ceremony Dang Sheng Su
16:50 – 17:30	<b>Jens K. Nørskov</b> – Catalysis for sustainable production of fuels and chemicals
18:00 – 20:00	<i>Reception</i>
	<b>Monday, 29 January</b>
SESSION 2	Chair: <b>Jens K. Nørskov</b>
9:00 – 9:40	<b>Bert M. Weckhuysen</b> – Catalytic hydrogenation of carbon dioxide: structure sensitivity and mechanistic insights to steer activity and selectivity
9:40 – 10:20	<b>Jan-Dierk Grunwaldt</b> – Catalysts and reactors under dynamic reaction conditions: Impact on structure and activity
10:20 – 10:40	<b>Winnie L. Eriksen</b> – Novel Approach to steam reforming through induction heating: A study of the intimate connection between heating source and catalyst
10:40 – 11:00	<i>Coffee Break</i>
SESSION 3	Chair: <b>Gabriele Centi</b>
11:00 – 11:40	<b>Michael Stockenhuber</b> – Catalytic processing for energy and chemicals applications – understanding how the catalyst (de)activates
11:40 – 12:00	<b>Man Yang</b> – Controllable oxygen defects obtained in Mo/Pt/W catalysts modulate the 1,3-propandiol yield in chemoselective hydrogenolysis of glycerol
12:00 – 12:20	<b>Matthew Drewery</b> – Utilisation of solid oxide fuel cells for conversion of glycerol and its derivatives
12:20 – 14:00	<i>Lunch</i>
SESSION 4	Chair: <b>Bert M. Weckhuysen</b>
14:00 – 14:40	<b>Graham J. Hutchings</b> – Catalysis using gold-containing nanoparticles
14:40 – 15:20	<b>Matthias Beller</b> – Development of non-noble metal catalysts for hydrogen storage and related processes
15:20 – 15:40	<b>Yujin Tong</b> – Mechanistic studies of electrochemical oxidation of gold by interfacial specific vibrational spectroscopy
15:40 – 16:00	<b>Ester M. Sulman</b> – Pyrolysis of flax shive in the presence of catalysts containing iron subgroup metals
16:00 – 16:20	<i>Coffee Break</i>
SESSION 5	Chair: <b>Peter Wasserscheid</b>
16:20 – 17:00	<b>S. Ted Oyama</b> – Kinetic and spectroscopic studies of catalytic

	mechanisms: hydrodeoxygenation of biomass feedstocks on transition metal phosphides
17:00 – 17:20	<b>Hao Yu</b> – Cu <sub>2</sub> O/TiO <sub>2</sub> hybrids with 2D Ti <sub>3</sub> C <sub>2</sub> MXene boosting photocatalytic hydrogen evolution
17:20 – 17:40	<b>Shih-Yuan Chen</b> – Upgrading of Jatropha biomass-derived bio-oil over sulfided catalysts produces renewable transport fuels
18:00 – 20:00	Poster Session with snacks and drinks
<b>Tuesday, 30 January</b>	
<b>SESSION 6</b>	Chair: <b>Graham J. Hutchings</b>
9:00 – 9:40	<b>Martin Muhler</b> – Catalytic conversion of syngas to alcohols: what do we know about the active sites?
9:40 – 10:20	<b>Peter Wasserscheid</b> – Catalyst development for hydrogen release from alkanes and LOHC systems
10:20 – 10:40	<b>Xing Huang</b> – Atomic-scale observation of metal-promoter interaction in Rh-based catalysts for CO hydrogenation
10:40 – 11:00	<i>Coffee Break</i>
<b>SESSION 7</b>	Chair: <b>Thomas Lunkenbein</b>
11:00 – 11:40	<b>Yuhan Sun</b> – CO <sub>2</sub> hydrogenation to fuel and chemicals
11:40 – 12:00	<b>Dori Kalai</b> – The effect of Ce-promoter on hydrotalcite derived Ni catalysts for CO <sub>2</sub> reforming of methane
12:00 – 12:20	<b>Juan J. Velasco-Velez</b> – X-ray spectroscopy of chemical energy conversion related processes under aqueous conditions: CO <sub>2</sub> RR on Cu and OER on IrOx catalysts
12:20 – 14:00	<i>Lunch</i>
<b>SESSION 8</b>	Chair: <b>Michael Stockenhuber</b>
14:00 – 14:40	<b>Gabriele Centi</b> – Catalysis for solar-driven chemistry: the role of electrocatalysis
14:40 – 15:20	<b>Peter Strasser</b> – Water splitting on Ir oxide-based electrocatalysts: vacancy and covalency
15:20 – 15:40	<b>Cornelia Broicher</b> – Highly active and stable manganese cobalt oxide spinel for water oxidation
15:40 – 16:00	<b>Hao Fan</b> – Boosting oxygen reduction activity of spinel CoFe <sub>2</sub> O <sub>4</sub> by strong interaction with hierarchical nitrogen-doped carbon nanocages
16:00 – 16:20	<b>Anna K. Mechler</b> – What binders do to the results of electrocatalytic OER experiments
16:20 – 16:40	<i>Coffee Break</i>
<b>SESSION 9</b>	Chair: <b>S. Ted Oyama</b>
16:40 – 17:20	<b>Małgorzata Witko</b> – Properties of modified heteropolyacids, from theory and experiment
17:20 – 17:40	<b>Stefania Albonetti</b> – Exploiting H-transfer as a tool for the catalytic reduction of bio-based building blocks: the gas-phase production of 2-methylfurfural using a FeVO <sub>4</sub> catalyst
17:40 – 18:00	<b>Antonina Stepacheva</b> – Conversion of oils and fats into biofuel through deoxygenation under conventional and supercritical conditions

18:30 – 20:30	<i>Conference Dinner</i>
	<b>Wednesday, 31 January</b>
SESSION 10	Chair: <b>Robert Schlögl</b>
9:00 – 9:20	<b>Patricia Benito</b> – Structured catalysts for H <sub>2</sub> production by electrodeposition
9:20 – 9:40	<b>Shuang Li</b> – Hydrogen production from lignocellulosic biomass by the engineered and evolved <i>Thermoanaerobacterium</i> sp.
9:40 – 10:00	<b>Zhengwen Cao</b> – Flexible conversion of lignocellulosic biomass into chemicals and fuels
10:00 – 10:20	<i>Coffee Break</i>
10:20 – 10:40	<b>Yi Cui</b> – Surface catalysis research in NANO-X
10:40 – 11:00	<b>Georg Wachtmeister</b> – What will drive individual mobility in the future?
	Closing discussion Robert Schlögl