DETAILED SCIENTIFIC PROGRAM

Acronym	Session
BIO	Biomass to chemicals and fuels
CHEM	Bulk chemicals and polymers
DES	Catalyst design, novel catalytic materials
CHAR	Catalyst characterization incl. operando methods: experiment and theory
DYN	Catalysts and reactors under dynamic conditions for energy storage and conversion
PUR	Catalytic technologies for liquid or solid waste reduction or purification
CO2	CO2 valorization
ELE	Electrocatalysis, including fuel cells
ENVP	Environmental photocatalysis
REAC	Experiment and theory of catalytic reactions
FINE	Fine chemicals
GTL	Gas to liquids conversion
INMC	Intermetallic compounds in catalysis
PHDP	Photo-driven processes for fuel and organic synthesis
REF	Refining and petrochemistry
SURF	Surface science & atomic level models: experiment and theory
EXH	Treatment of flue / exhaust gases

Poster sessions

Monday, August 28, 2023, 18:00 – 20:00 Congress Hall Foyer 2nd & 3rd floor

Poster session sponsor:

CHEM: Bulk chemicals and polymers

DES: Catalyst design, novel catalytic materials

CHAR: Catalyst characterization incl. operando methods: experiment and theory

PUR: Catalytic technologies for liquid or solid waste reduction or purification

CO2: CO2 valorization

INMC: Intermetallic compounds in catalysis

REF: Refining and petrochemistry

Tuesday, August 29, 2023, 18:00 – 20:00 Congress Hall Foyer 2nd & 3rd floor

Poster session sponsor:

BIO: Biomass to chemicals and fuels

DYN: Catalysts and reactors under dynamic conditions for energy storage and conversion

ELE: Electrocatalysis, including fuel cells

ENVP: Environmental photocatalysis

REAC: Experiment and theory of catalytic reactions

FINE: Fine chemicals

GTL: Gas to liquids conversion

PHDP: Photo-driven processes for fuel and organic synthesis

SURF: Surface science & atomic level models: experiment and theory

EXH: Treatment of flue / exhaust gases

The full list of posters is available on pages 94–183.

Sunday, August 27 — Terrace 2B, 2nd floor

14:00 – 16:00 YEuCat Workshop

14:00 **Welcome**

14:10 **Introduction of discussion topics by YEuCat moderators**

14:30 **Moderated discussions**

15:30 **Wrap up & Presentation of outcome by moderators**

Sunday, August 27 — Congress hall

15:45 – 16:20 Opening ceremony

15:45 **Opening**

16:00 **Malgorzata Witko**
Congress Chair
Jerzy Haber Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences (Krakow, Poland)

16:05 **Pavel Matějka**
University of Chemistry and Technology Prague, Rector

16:10 **Organisation details of the congress**

David Kubička
Chair of the Local Organizing Committee
Chairman of the Czech Catalysis Society
University of Chemistry and Technology (Prague, Czechia)

16:20 – 18:20 Plenary lectures

Chairpersons: B. M. Weckhuysen (Netherlands), M. Witko (Poland)

16:20 PL 01

Birth, life and aging of heterogeneous catalysts seen by the eye of a spectroscopist
S. Bordiga (Italy)

17:20 PL 02

Frontiers in olefin metathesis: Toward the realization of a Nobel promise
D. Fogg (Canada)

Sunday, August 27 — Congress hall foyer, 2nd floor

18:20 – 20:00 Welcome reception

Monday, August 28 — Congress hall

9:00 – 10:00 Plenary lecture

Chairpersons: H. J. Venvik (Norway), G. Centi (Italy)

9:00 PL 03

Towards understanding catalysis at water-solid interfaces

J. Lercher (Germany)

10:00 – 10:30 Coffee break

10:30 – 12:30 Biomass to chemicals and fuels 1

Chairpersons: J.-P. Lange (Netherlands), D. Rutkowska-Zbik (Poland)

10:30 BIO-KL-01

Renewable fuels form waste in the circular economy era

C. Perego (Italy)

11:10 BIO-OL-01

Sorption-enhanced steam reforming of toluene using multifunctional perovskite phase transition sorbents in a chemical looping scheme

L. Brody[1], R. Cai[1], M. Rukh[1], K. Yang[1], M. Bekheet[2], S. Praetz[2], C. Schlesiger[2], B. Kanngießer[2], R. Schomäcker[2], and F. Li[1] ([1]USA, [2]Germany)

11:30 BIO-OL-02

Vanadium-based catalysts for the sustainable production of formic acid from glucose

D. Álvarez, M. I. D. Leal, M. Martínez T, S. Ivanova, **M. A. Centeno** (Spain)

11:50 BIO-OL-03

Vanadium containing pillared clays as catalysts for acetaldehyde production by ethanol selective oxidation

E. Sabre[1,2], S. Casuscelli[1], A. Cánepa[1], **V. C. Corberán**[2] ([1]Argentina, [2]Spain)

12:10 BIO-OL-04

A showcase for comlexity of catalysis at liquid-solid interface: base-catalyzed isomerization of monosaccharides

P. Drabo[1], M. Fischer[1], V. Toussaint[2], **I. Delidovich**[2] ([1]Germany, [2]Austria)

12:30 – 14:30 Lunch break

Monday, August 28 — South hall 2AB, 2nd floor

10:30 – 12:30 Catalyst design, novel catalytic materials 1

Chairpersons: S. Albonetti (Italy), T. Tabari (Poland)

10:30 DES-OL-01

Tuning Fe active sites in zeolites

M. Bols[1], B. Snyder[2], D. Plessers[1], R. Schoonheydt[1], M. Dusselier[1], E. Solomon[2], B. Sels[1] ([1]Belgium, [2]USA)

10:50 DES-OL-02

Single-atom Ru on zeolite catalyst for the valorisation of muconic acid via isomerization and hydrogenation reactions

I. Khalil, L. De Vriendt, M. Dusselier (Belgium)

11:10 DES-OL-03

Hydrogen activation on molecular molybdenum sulfide clusters encapsulated within the pores of NaY zeolites

R. Khare, R. Weindl, C. Gross, A. Jentys, J. A. Lercher (Germany)

11:30 DES-OL-04

Activation of N2O and CH4 over metal-exchanged zeolite: impact of framework Al distribution

K Nakamura[1], P. Xiao1, R. Osuga[1], J. N. Kondo[1], A. Muramatsu[1], H. Gies[2], **T. Yokoi**[1] ([1]Japan, [2]Germany)

11:50 DES-KL-01

Science and art of successful catalysts promotion by alkali

A. Kotarba (Poland)

12:30 – 14:40 ***Lunch break***

14:30 – 15:30 Catalyst design, novel catalytic materials 3

Chairpersons: M. Konsolakis (Greece), A. Knorpp (Switzerland)

14:30 DES-OL-05

Structure-activity relationships in Pt/CeO2 catalysts for hydrogen borrowing amination

M. Douthwaite[1], T. Tong[1,2], L. Chen[2], R. Engel[1], M. B. Conway[1], W. Guo[2], X-P. Wu[2], X-Q Gong[2],Y. Wang[2], D. J. Morgan[1], T. Davies[1], C. J. Kiely[3], L. Chen[2], X. Liu[2], G. J. Hutchings[1] ([1]UK, [2]China, [3]USA)

14:50 DES-OL-06

From mechanism study to catalyst design: Exsolved Ru nanocatalysts on proton conducting oxide for efficient ammonia synthesis

H.-I. Ji, J. Kim, H. Kim, S. Yang (South Korea)

15:10 DES-OL-07

Unveiling the evolution of N2O species over atomically dispersed Mn species supported on the TiO2 for NOx selective reduction with NH3

Yan Wang, Sarah Komaty, Polina Lavrik, Cristina I. Q. Silva, Sudheesh Kumar Veeranmaril, Javier Ruiz-Martínez (Saudi Arabia)

15:30 – 16:00 ***Coffee break***

16:00 – 18:00 Catalyst design, novel catalytic materials 4

Chairpersons: D. Chen (Norway), C. Werlé (Germany)

16:00 DES-KL-02

Sustainable homogeneous catalysis using sustainable safer solvents

D. E. Bergbreiter (USA)

16:40 DES-OL-08

Exploring the adaptivity of catalytic systems in divergent and chemoselective atom-transfer reactions

C. Werlé (Germany)

17:00 DES-OL-09

Methane oxidation on MOF supported Fe single-atom catalysts

A.M. Abdel-Mageed[1], B. Rungtaweevoranit[2], K.Faungnawakij[2] ([1]Germany, [2]Thailand)

17:20 DES-OL-10

Sub–nanometric metal species supported in MOFs for organic synthesis

M. Mon, A. Leyva-Pérez (Spain)

17:40 DES-OL-11

Design of metal-organic frameworks for photocatalytic H2O2 production

H. Yamashita, Y. Kondo, Y. Kuwahara, K. Mori (Japan)

Monday, August 28 — Panorama hall, 1st floor

10:30 – 12:30 Bulk chemicals and polymers 1

Chairpersons: L. Lefferts (Netherlands), Y.-W. Suh (South Korea)

10:30 CHEM-OL-01

Kinetic Coupling of Ethane and CO_2 Activation on Metal Oxide Catalysts

R. Yao[1], G. Cai[1], J. Pinals[2], R. Dorakhan[1], J. E. Herrera[1], P. Deshlahra[2], **Y.-H. Chin**[1] ([1]Canada, [2]USA)

10:50 CHEM-OL-02

Experiments and Kinetic Model Development on Side Chain Alkylation of Toluene with Methanol: An Industrial Perspective

S. Kanungo, K. Mondal, V. Bhide (India)

11:10 CHEM-KL-01

Catalysis for sustainable chemical production

A. Kirilin (Netherlands)

11:50 CHEM-OL-03

MTH over HZSM-5: FASPA, isotope labeling and Kubin-Kucera revisited

C.Liu, E. Uslamin, E. Pidko, **F. Kapteijn** (Netherlands)

12:10 CHEM-OL-04

Successful Development of a Taylor-made Catalyst System for Linde´s EDHOXTM Technology

G. Mestl, K. Wanninger, S. Böcklein, M. Schubert, A. Meiswinkel, M. Zellhuber, F. Winkler, N. Schödel (Germany)

12:30 – 14:30 Lunch break

14:30 – 15:30 Environmental photocatalysis 1

Chairpersons: O. Monfort (Slovakia), E. Kusiak-Nejman (Poland)

14:30 ENVP-OL-01

Cross-dimensional activation of 2D cobalt hydroxide with 0D cobalt oxides for photocatalytic microplastic degradation

R. Greco, F. Temerov, W. Cao (Finland)

14:50 ENVP-OL-02

Continuous in situ measurement of photocatalytic efficiency of powder materials in liquid dispersions by optical absorption method

R. Dvorsky, **L. Svoboda**, J. Bednář, Z. Vilamová, Z. Šimonová (Czechia)

15:10 ENVP-OL-03

Layer-by-layer self-assembled TiO_2 and plasmonic Ag@TiO_2 hybrid nanoscale transparent thin films for gas phase

M. Motay, L. Ploux, L. Balan, C. Colbeau-Justin, G. Decher, **N. Keller** (France)

15:30 – 16:00 ***Coffee break***

16:00 – 18:00 Environmental photocatalysis 2

Chairpersons: O. Monfort (Slovakia), E. Kusiak-Nejman (Poland)

16:00 ENVP-OL-04

Effect of tunable shell thickness on the plasmon-enhanced photocatalytic activity of Au@TiO_2 core-shell nanoparticles

R.Ninakanti, R. Borah, S. Bals, S.W. Verbruggen (Belgium)

16:20 ENVP-OL-05

Photocatalytic efficiency of VOC removal on TiO_2 nanotubes: Effect of layer thickness

J. Rusek, M. Baudys, M. Lhotka, J. Krýsa (Czechia)

16:40 ENVP-KL-01

Hydrogen and CO2 as building blocks for chemical energy conversion

W. Leitner (Germany)

17:20 ENVP-OL-06

Role of metal nanoparticles in non-oxidative methane coupling to ethane using a novel gas flow-through photocatalytic reactor

V. Longo, L. De Pasquale, F. Tavella, S. Perathoner, G. Centi, C. Ampelli, C. Genovese (Italy)

17:40 ENVP-OL-07

Photocatalytic cleavage of lignin C–C bonds

X. Wu[1], S. Xie[2], Y. Wang[2] , B. F. Sels[1] ([1]Belgium, [2]China)

Monday, August 28 South hall 3BC, 3rd floor

10:30 – 12:30 CO2 valorization 1

Chairpersons: G. Pollefeyt (Netherlands), E. Mazoyer (Belgium)

10:30 CO2-OL-01

Ni- based catalysts for CO_2 methanation: effect of promoters and development of intermetallics based materials

P. Riani, E. Spennati, R. Freccero, **G. Garbarino** (Italy)

10:50 CO2-OL-02

Activity of Ni modified WO_3 doped CeO_2-ZrO_2 based catalysts in selective methanation of CO_2: effect of Ce/Zr ratio and WO_3 loading

P.K. Seelam[1,2], P. Balla[3], S. Kim[3], U. Lassi[2] ([1,2]Finland, [3]Republic of Korea)

11:10 CO2-OL-03

CO_2 methanation over Ru and Ni based catalysts: towards a comprehensive kinetic model through a multi-technique study

C. Larghi, A. Porta, R. Matarrese, C.G. Visconti, L. Lietti (Italy)

11:30 CO2-OL-04

BEA zeolite supported nickel catalysts for CO_2 methanation

W. Gac[1], W. Zawadzki[1], G. Słowik[1], M. Kuśmierz[1], Y. Millot[2], L. Valentin[2], **S. Dzwigaj[2]** ([1]Poland, [2]France)

11:50 CO2-OL-05

Ni supported on MnO catalysts for methane dry reforming

H. Pan[1,2], **X. Chen[1]**, A. Monzón[1], J.J. Delgado[1] ([1]Spain, [2]PR China)

12:10 CO2-OL-06

Integrated capture and methanation of CO_2 using mono- and bimetallic Ni and Ni-Ru catalysts along with a Na-Al_2O_3 sorbent

A. I. Tsiotsias, C. Giotas, A.I. Latsiou, N.D. Charisiou, M.A. Goula (Greece)

13:30 – 14:30 ***Lunch break***

14:30 – 15:30 CO2 valorization 2

Chairpersons: G. Pollefeyt (Netherlands), E. Mazoyer (Belgium)

14:30 CO2-KL-01

Materials and mechanisms to promote CO_2 hydrogenation to methanol

M. Behrens (Germany)

15:10 CO2-OL-07

Biogas upgrading through CO_2 methanation in a polytropic - distributed feed fixed bed reactor

P. Durán, P. Aragüés-Aldea, E. Francés, J.A. Peña, **J. Herguido** (Spain)

15:30 – 16:00 ***Coffee break***

16:00 – 18:00 Biomass to chemicals and fuels 2

Chairpersons: P. Beato (Denmark), N. Keller (France)

16:00 BIO-OL-05

Efficient conversion of polysaccharides to glucose in water using a heterogeneous ionic polymer catalyst

K. A. Abhyankar, R. J. Somerville, F. F. Tirani, Z. Fei, P. J. Dyson (Switzerland)

16:20 BIO-OL-06

Enhanced Reductive Catalytic Fractionation of raw lignocellulosic biomass with recyclable magnetic catalyst

F. Bugli, T. Tabanelli, D. Lorito, M. Sgarzi, F. Cavani (Italy)

16:40 BIO-OL-07

Selective synthesis of oligosaccharides by depolymerization of chitin over a carbon catalyst

A. Fukuoka, H. Kobayashi (Japan)

17:00 BIO-OL-08

Catalytic screening for microalgal bio-oil hydroconversion

B. Da C. Magalhães, P. Afanasiev[1], **D. Laurenti**, C. Geantet (France)

17:20 BIO-OL-09

Ruthenium ion catalysed C-C bond cleavage in lignin model compounds - Towards lignin depolymerisation.

S. Meenakshisundaram, S. Guadix-Montero, M. A. Sainn, G. Forsythe, G. N. Sheldrake, D. Willock (United Kingdom)

17:40 BIO-OL-10

Relationship between number and strength of acid-base catalytic sites and their selectivity in isopropanol dehydration reaction

L.Silvester, **G. Postole**, S. Segondy, A. Auroux, J.-L. Dubois (France)

Monday, August 28 — North hall, 2nd floor

10:30 – 12:30 Catalysts and reactors under dynamic conditions for energy storage and conversion 1

Chairpersons: J.-D. Grunwaldt (Germany), S. Ivanova (Spain)

10:30 DYN-OL-01

Utilizing the redox cycability of modified spinel precursors for reactivation of Ni-based CO_2 methanation catalysts

D. Weber, T. Franken (Germany)

10:50 DYN-OL-02

Stability of Fe-based Fischer-Tropsch Catalysts at dynamic reaction conditions captured by in-situ magnetometry

Q. Chang[1,2], R. Stegman[1], N. Fischer[1], H. Kotzé[1], D. de Oliveira[1], C. Zhang[2], J. Xu[2], X. Wen[2], Y, Yang[2], Y.W. Li[2], H. Niemantsverdriet[3], K.-J. Weststrate[3], **M. Claeys**[1] ([1]South Africa, [2]China, [3]Netherlands)

11:10 DYN-OL-03

Operando X-Ray absorption spectroscopic investigations on Ni and Cu Catalysts for CO_2-Hydrogenation

L. Baumgarten, J. Gieser, P. Hauberg, M. Behrens, E. Saraçi, J.-D. Grunwaldt (Germany)

11:30 DYN-OL-04

Separation and conversion of CO_2 to methanol over bifunctional catalysts under dynamic reaction conditions

H. Xu, J. A. Lercher, **A. Jentys** (Germany)

11:50 DYN-OL-05

Elucidation of the dynamics of thermally stable single atom catalysts

Y. Wang, D. Jiang, X. Wang, A. Datye, P. Liu (United States)

12:10 DYN-OL-06

Simultaneous CH_4 and N_2 conversion under microwave and microwave plasma catalytic Processing

S. Tiwari, **J. Hu** (United States)

12:30 – 14:30 Lunch break

14:30 – 15:30 Experiment and theory of catalytic reactions 1

Chairpersons: G. Rocha (Portugal), S. Bordiga (Italy)

14:30 REAC-OL-01

Tools for navigating catalyst landscapes

S. Das, R. Laplaza, J. T. Blaskovits, C. Corminboeuf (Switzerland)

14:50 REAC-OL-02

Computing catalytic reaction times and paths with machine learning and rare events sampling methods

T. Pigeon, G. Stoltz, M. Corral-Valero, A. Anciaux-Sedrakian, T. Lelièvre, P. Raybaud (France)

15:10 REAC-OL-03

Principles of spin catalysis

J. Gracia, M. Fianchini, C. Biz (Spain)

15:30 – 16:00 Coffee break

16:00 – 18:00 Experiment and theory of catalytic reactions 2

Chairpersons: G. Rocha (Portugal), S. Bordiga (Italy)

16:00 REAC-OL-04

Operando spatial reactor analysis and kinetic study of oxidative coupling of methane

J.Palomo, N. Koenraadt, J. de Kort, A. Urakawa (Netherlands)

16:20 REAC-OL-05

Local structural changes of Mo_3VO_x by the heat treatment and its effects on propan ammoxidation

K. Shimoda, S. Ishikawa, K. Shimizu, W. Ueda (Japan)

16:40 REAC-OL-06

Disclosing the interaction between heterogeneous catalysts and substrates in liquid phase reactions

M. Stucchi[1], F. Vasile[1], O. Serve[2], J.P. Korb[3], B. Vandegehuchte[2] and L. Prati[1] ([1]Italy,[2]Belgium,[3]France)

17:00 REAC-OL-07

Unraveling 1-Hexene Hydrogenation over dilute Pd-in-Au alloys

J.E.S. van der Hoeven[1,2], H. Tong Ngan[2], G. Yan[2], J. Aizenberg[2], R. J. Madix[2], P. Sautet[2], C. M. Friend[2] ([1]Netherlands,[2]USA)

17:20 REAC-OL-08

Comparison of mechanisms of deNOx and deN_2O processes on partial hydrated bimetallic Cu-Zn dimers in clinoptilolite zeolite - DFT study

I. Kurzydym, I. Czekaj (Poland)

17:40 REAC-OL-09

Ab Initio Predictions for Heats of Adsorption and Reaction Barriers for Alkanes in Acidic Zeolites

F. Berger, M. Rybicki, **J. Sauer** (Germany)

10:30 – 12:30 Catalyst design, novel catalytic materials 2

Chairpersons: J. Alves Fernandes (United Kingdom), A. Pintar (Slovenia)

10:30 DES-SOL-01

Novel synthesis of sub-nanometric high entropy alloy clusters on CeO_2 nanorods

N. Hashimoto, K. Mori, N. Kamiuchi[2], H. Yoshida, H. Yamashita (Japan)

10:40 DES-SOL-02

Electronic and geometry optimization of Ru nanoparticles exsolution on $BaCe_{0.9}Y_{0.1}O_{3-\delta}$ for ammonia synthesis reaction under mild conditions.

Hayoung Kim, Deok-Hwang Kwon, Ho-Il Ji, Yongseok Jun, Ji-Won Son, Sungeun Yang (South Korea)

10:50 DES-SOL-03

Engineering exsolution catalysts for CO_2 to methanol

S. Soodi, L.-P. Merkouri, M. S. Duyar, **K. Kousi** (United Kingdom)

11:00 DES-SOL-04

Intermittent ammonia synthesis over a Cs-promoted Ru/SGCNT catalyst

S.-Y. Chen, M. Nishi, H. Tateno, T. Mochizuki, H. Takagi, T. Nanba (Japan)

11:10 DES-SOL-05

Revealing hydrogen spillover pathways in reducible metal oxide catalysts

K. Shun, K. Mori, H. Yamashita (Japan)

11:20 DES-SOL-06

Metathesis of ethylene with 2-butenes over MoO_x-based catalysts: effect of support on catalyst activity and mechanistic insights into carbene formation

T. Otroshchenko, Q. Zhang, E.V. Kondratenko (Germany)

11:30 DES-SOL-07

Understanding and controlling surface sites in silica-supported GaO_δ shells for isobutane dehydrogenation

Z.Chen[1], N. Zimmerli[1], A. Yakimov[1], C. Copéret[1], P. Florian[2], P. M. Abdala[1], A. Fedorov[1], C. R. Müller[1] ([1]Switzerland, [2]France)

11:40 DES-SOL-08

Copper-decorated iron carbide nanoparticles heated by magnetic induction as adaptive multifunctional catalysts for the selective hydrodeoxygenation (HDO) of aldehydes

S.-H. Lin, W. Leitner, A. Bordet (Germany)

11:50 DES-SOL-09

Scalable laboratory synthesis of Cu-based methanol catalysts

S. Pitter, L. Warmuth, D. Guse, K. Herrera Delgado, M. Herfet, M. Kind, T. Zevaco (Germany)

12:00 DES-SOL-10

Chemoselective reduction of cinnamaldehyde using low loading metal based catalysts

A. G. Mirea, M.-I. Chirica, Ş. Neaţu, F. Neaţu, M. Florea, M.-M. Trandafir (Romania)

12:10 DES-SOL-11

Cyclohexanone oxime production via in-situ generated H_2O_2: a rival to industrial production

R. J. Lewis[1], K. Ueura[2], Xi Liu[3], L.Chen[3], S. J. Freakley[1], Y. Yamamoto[2], G. J. Hutchings[1] ([1]United Kingdom, [2]Japan, [3]China)

12:20 DES-SOL-12

Low-valent manganese atoms stabilized on ceria for nitrous oxide synthesis

I. Surin[1], Z. Tang[1], J. Geiger[2], S. Damir[1], H. Eliasson[1], M. Agrachev[1], F. Krumeich[1], S. Mitchell[1], V. A. Kondratenko[3], E. V. Kondratenko[3], G. Jeschke[1], R. Erni[1], N. López[2], and J. Pérez-Ramírez[1] ([1]Switzerland, [2]Spain, [3]Germany)

12:30 – 14:30 Lunch break

14:30 – 15:30 Catalytic technologies for liquid or solid waste reduction or purification 1

Chairpersons: O. Šolcová (Czechia), K. Goulas (USA)

14:30 PUR-SOL-01

Catalyst and reactor design for high-throughput photocatalyst screening for degradation of female hormones in water

S. Schmitz-Stöwe, T. B. Engelhardt, M. Zhu, T. Schwarz, K. Stöwe (Germany)

14:40 PUR-SOL-02

Insight into reactivity of niobia-based catalysts in activation of hydrogen peroxide and degradation of organic pollutants

L. Wolski, K. Sobańska, A. Walkowiak, J. Gryboś, M. Frankowski, M. Muńko, A. Czerniak, M. Ziolek, P. Pietrzyk (Poland)

14:50 PUR-SOL-03

Lignin Oxidation towards High-Added-Value carboxylic acids under mild hydrothermal conditions using MgO-based catalysts

N. Vidal, M. Ventura, F. Martínez, J.A. Melero (Spain)

15:00 PUR-SOL-04

Dechlorination of PVC to HDPE: Effects of catalysts and bases

S. Svadlenak, D. Wildenschild, **K. Goulas** (USA)

15:10 PUR-SOL-05

Acidic carbocatalyst for the conversion of polyethylene waste to hydrocarbons

M. Al-Naji, M. Antonietti (Germany)

15:20 PUR-SOL-06

Catalytic PET depolymerization by hydrolysis using sulfonated 2D MXenes

I. M. Chirica[1], Ș. Neațu[1], A. Mirea[1], M. W. Barsoum[2], M. Florea[1], **F. Neațu**[1] ([1]Romania, [2]USA)

15:30 – 16:00 Coffee break

16:00 – 18:00 CO2 valorization 3

Chairpersons: L. van de Water (United Kingdom), S. Albersberger (Finland)

16:00 CO2-SOL-01

Light-assisted CO_2 hydrogenation reactions: mechanistic investigation and catalyst engineering

B. Xie, T.H. Tan, R.J. Wong, J. Scott, R. Amal (Australia)

16:10 CO2-SOL-02

CO_2 utilization for on-purpose ethylene production via ethane dehydrogenation over highly selective iron oxide sites

M. Tasioula[1], E. de C. Gallerande[2], A. Christodoulou[1], A. Longo[2,3], S.A. Theofanidis[1,4], A. A. Lemonidou[1] ([1]Greece, [2]France, [3]Italy, [4]Luxembourg)

16:20 CO2-SOL-03

Application of molybdenum carbide catalysts for the CO_2-assisted oxidative dehydrogenation of ethane

W. Marquart, M. Claeys, N. Fischer (South Africa)

16:30 CO2-SOL-04

Inverse Zn^{2+}/CuO_x for methanol selective CO_2 hydrogenation

X. Ye[1], K. Cheng[2], F. Merier[1], B.M. Weckhuysen[1] (Netherlands, [2]China)

16:40 CO2-SOL-05

Metal-organic framework-based catalysts for CO_2 hydrogenation: Insights from kinetic isotope effect studies

D. Makhmutov[1], B. Rungtaweevoranit[2], S. Wohlrab[1], U. Armbruster[1], A.M. Abdel-Mageed[1] ([1]Germany, [2]Thailand)

16:50 CO2-SOL-06

Effect of In content on In_2O_3/ZrO_2 catalysts for methanol synthesis via CO_2 hydrogenation

I. Tapia, **F. Villagra-Soza**, A. Karelovic, R. Jiménez (Chile)

17:00 CO2-SOL-07

A spatially-resolved operando FT-IR analysis on Dual Function Materials (DFMs) for CO_2 capture and hydrogenation from flue gases

A. Porta, R. Matarrese, C.G. Visconti, L. Lietti (Italy)

17:10 CO2-SOL-08

Mechanistic relationship between CO and CO_2 hydrogenation over mono- and bimetallic Ni, Co and NiCo catalysts

F. Villagra-Soza, T. Vergara, S. Godoy, A. Karelovic, R. Jiménez (Chile)

17:20 CO2-SOL-09

Optimisation of Cu-CeO_2 catalysts for the CO_2 hydrogenation to MeOH

E. Calì[1,2], F. Salomone[1], S. Bensaid[1], D.J. Payne[2], F.A. Deorsola[1] ([1]Italy, [2]UK)

17:30 CO2-SOL-10

Carbon–ZrO_2 composite as support for Ni-based CO_2 methanation catalyst

I.F. Quatorze, L.P.L. Gonçalves,Y.V. Kolen'ko, M.F.R. Pereira, **O.S.G.P. Soares** (Portugal)

17:40 CO2-SOL-11

Monitoring by in situ NAP-XPS of active sites for CO_2 methanation on a Ni/CeO_2 catalyst

S. López-Rodríguez, A. Davó-Quiñonero, E. Bailón-García, D. Lozano-Castelló, I. Villar-García, V. Pérez-Dieste, J.A. Onrubia-Calvo, J.R. González-Velasco, **A. Bueno-López** (Spain)

17:50 CO2-SOL-12

Carbon resistant Ni-Co binary nanoparticles for dry reforming of methane reaction

C. Ciotonea, M. Chaghouri, M. Marinova, P. Simon, E. Abi-Aad, S. Royer, C. Gennequin (France)

10:30 – 12:30 Treatment of flue / exhaust gases 1

Chairpersons: K. Pacultová (Czechia), P. Kustrowski (Poland)

10:30 EXH-SOL-01

Catalytic activity and the impact on emissions: Fe-FER vs Fe-ZSM5

F. Oldani[1], P. Biasi[1], R. Lanza[2], E. Rohart[3], A. Lahougue[3], A. Garbujo[1] ([1]Switzerland, [2]Sweden, [3]France)

10:40 EXH-SOL-02

Insight into the effects of dopants (Fe, Al) on catalytic performance and SO_2 tolerance of MnO_x catalysts for low-temperature NH_3-SCR of NO_x

H. Li[1], L. Schill, R. Fehmann, A. Riisager (Denmark)

10:50 EXH-SOL-03

Investigation on Fe active sites in Fe/CHA catalysts for NH_3-SCR by transient response methods

M. E. Azzoni[1], I. Nova[1], E. Tronconi[1], R. Villamaina[2], M. P. Ruggeri[2], V. Georgieva[2], L. Mantarosie[2], J. Collier[2] ([1]Italy, [2]UK)

11:00 EXH-SOL-04

Kinetic study by energy dispersive EXAFS on cerium based oxygen storage materials for emission control catalysis

H.Gu [1], S. Marlow[1], L. Kang[1], Y. Ren[1], Z. Wang[1], X. Guan[1], H. Asakura[2], R. Wang[1*] ([1]UK, [2]Japan)

11:10 EXH-SOL-05

Ceria-supported metal nanocatalysts for CO abatement in industrial combustion exhaust gases

A. Lazzarini, L. Atzori, F. Ferella, M. Signorile, G. Cutrufello, E. Rombi, M. Crucianelli (Italy)

11:20 EXH-SOL-06

Distinct morphology-dependent behavior and reaction mechanism over $BaCoO_3/CeO_2$ catalysts for NO direct decomposition

R. Kang[1,2], **Y. Li**[1] ([1]Finland, [2]China)

11:30 EXH-SOL-07

Unravelling the structure and role of Mn and Ce for NOx reduction in aplication-relevant catalysts

L. Gevers, L. Enakonda, A. Shahid, S. Ould-Chikh, C. I.Q. Silva, P. P. Paalanen, A. Aguilar-Tapia, J.-L. Hazemann, M. N. Hedhili, F. Wen, **J. Ruiz-Martinez** (Saudi Arabia)

11:40 EXH-SOL-08

Cu/CeO_2 catalyst for NH_3 formation from NOx using $CO + H_2O$ as reductants

Y. Manaka, K. Kobayashi, T. Nanba (Japan)

11:50 EXH-SOL-09

Kinetics of site transformations in a Cu/SSZ-13 catalyst during aging

T. Zheleznyak[1], P. Kočí[1], K. Meena[2], L. Wei[2], W. Epling[2] ([1]Czechia, [2]USA)

12:00 EXH-SOL-10

NO_x adsorption and stability on Pd/SSZ-13 low-T adsorbers: mechanistic pathways investigated by Operando FTIR spectroscopy

Y. Hamid, R. Matarrese, S. Morandi, L. Castoldi, L. Lietti (Italy)

12:10 EXH-SOL-11

Phosphorous contamination of a V/W-TiO2 Monolith Catalysts used for NH_3-SCR of NO_x in bio-fuel combustion exhaust

S. F. Håkonsen, M. F. Sunding, B. Arstad, A. Lind, J. H. Cavka, D. Waller, K. I. Skau (Norway)

12:20 EXH-SOL-12

Valorising emissions from steel making into sustainable products

L. Lukashuk[1], S. P. Ruiz[1], H.A.J. van Dijk[2] ([1]UK, [2]Netherlands)

12:30 – 14:30 ***Lunch break***

16:00 – 18:00 Catalyst characterization incl. operando methods: experiment and theory 1

Chairpersons: Z. Sojka (Poland), M. Behrens (Germany)

16:00 CHAR-SOL-01

Comparison of newly identified $[Cu\text{-}O\text{-}Cu]^{2+}$ and $[CuOH]^{+}$ Sites in Cu-CHA and Cu-MOR zeolites for selective methane oxidation to methanol

D. Plessers[1], A. J. Heyer[2], H. M. Rhoda[2], M. L. Bols[1], R. A. Schoonheydt[1], E. I. Solomon[2], B. F. Sels[1] ([1]Belgium, [2]USA)

16:10 CHAR-SOL-02

In situ MAS NMR spectroscopy reveals the mechanism of methane coupling to hydrocarbons over copper-containing mordenite

M. A. Artsiusheuski, R. Verel, J. A. van Bokhoven, V. L. Sushkevich (Switzerland)

16:20 CHAR-SOL-03

Active carbenium species direct olefins selectivity in the methanol-to-olefins process

L. Maggiulli, M. Nachtegaal, O. Kröcher, J.A. van Bokhoven, D. Ferri (Switzerland)

16:30 CHAR-SOL-04

The role of MnOx and alkali metals in MnO_x-M(Na, K, Rb, or Cs)$_2WO_4/SiO_2$ for product formation in oxidative coupling of methane

A. Zanina, V. A. Kondratenko, H. Lund, E.V. Kondratenko (Germany)

16:40 CHAR-SOL-05

Characterization of zeolite supported molybdenum oxide nanostructures during activation for methane dehydroaromatization using operando X-ray absorption spectroscopy

N. Joy, J. D. H. F. Molajafari, R. Rana, **A. S. Hoffman**, A. Kulkarni, S. R. Bare, S. Khatib (USA)

16:50 CHAR-SOL-06

Enhancing the performance of Co-Ru supported on CeO2 for the dry reforming of methane via a mechanochemical process

M. Armengol-Profitós, I. J. Villar-Garcia, V. Pérez-Dieste, C. Escudero, N. J. Divins, J. Llorca (Spain)

17:00 CHAR-SOL-07

Ru-REO/Al_2O_3 as dual-functional materials for combined CO_2 capture and methanation: an operando DRIFTS study

L. Moreno Bravo[1], F. Meunier[2], J. Kopyscinski[1] ([1]Canada, [2]France)

17:10 CHAR-SOL-08

Detecting surface intermediates beyond carbon monoxide in the copper-catalyzed electroreduction of carbon dioxide

J. de Ruiter, B. den Hartigh, W. van der Stam, B. M. Weckhuysen (Netherlands)

17:20 CHAR-SOL-09

Insights on Au nanoparticle dynamics by UV-Vis operando spectroscopy: An application to CO_2 activation via reverse water gas shift

C. Negri[1], R. Colombo[1], C. Atzori[2], A. Donazzi[1], A. Lucotti[1], M. Tommasini[1], M. Maestri[1] ([1]Italy, [2]France)

17:30 CHAR-SOL-10

Cu-bipy complexes for light hydrocarbon oxygenation reactions

G. Deplano[1], B. Centrella[1], M. Signorile[1], M. Bonomo[1], S. Jannuzzi[2], A. Damin[1], C. Barolo[1], S. DeBeer[2], S. Bordiga[1] ([1]Italy, [2]Germany)

17:40 CHAR-SOL-11

Following the evolution of PdZn nanoparticles used for carbon dioxide activation

S. Mediavilla Madrigal, A. M. Beale, N. Lawes, S. Parry (United Kingdom)

17:50 CHAR-SOL-12

Catalytic behaviour and surface changes of MAX phases and MXenes

A. C. Iacoban[1], T. Haldar[1], F. Neatu[1], S. Neatu[1], L. Artiglia[2], M.l Barsoum[3], M. Florea[1] ([1]Romania, [2]Switzerland, [3]USA)

Monday, August 28 — Congress hall foyer 2nd & 3rd floor

18:00 – 20:00 Poster session 1

The full list of posters is available on pages 94–183.

Tuesday, August 29 — Congress hall

9:00 – 10:00 Plenary lecture

Chairpersons: A. Lemonidou (Greece), J. Lercher (Germany)

9:00 PL 04

Catalysis using gold containing materials

G. Hutchings (United Kingdom)

10:00 – 10:30 Coffee break

10:30 – 12:30 Refining and petrochemistry 1

Chairpersons: D. Nieskens (Netherlands), S. Tolborg (Denmark)

10:30 REF-KL-01

Adventure in Homogeneous catalysis: from laboratory to industrial applications

H. Olivier-Bourbigou (France)

11:10 REF-OL-01

Propylene production by butene cracking. Descriptors for ZSM-5-based catalysts

P. del Campo[1*], M. T. Navarro[1], S. K. Shaikh[2], M. D. Khokhar[2], F. Aljumah[2], C. Martínez[1], A. Corma[1]
([1]Spain, [2]Kingdom of Saudi Arabia)

11:30 REF-OL-02

The role of formaldehyde in the methanol-to-hydrocarbons conversion

V. Paunović, P. Hemberger, A. Bodi, J. A. van Bokhoven (Switzerland)

11:50 REF-OL-03

Application of Ga-based catalysts for the non-oxidative dehydrogenation of methanol to formaldehyde and hydrogen

M. Merko, S. Delsing, W. Busser, **M. Muhler** (Germany)

12:10 REF-OL-04

Second-generation approaches for the production and distribution of green H_2

G. Centi, S. Perathoner (Italy)

12:30 – 14:30 ***Lunch break***

Tuesday, August 29 South hall 2AB, 2nd floor

10:30 – 12:30 Catalyst design, novel catalytic materials 5

Chairpersons: C. Rameshan (Austria), R. Khare (Germany)

10:30 DES-OL-12

Design of oxide-polymer hybrid materials with multifunctional properties for biomass valorisation and wastewater treatment.

A. Allegri, C. Oldani, A. Brigliadori, M. Blosi, S. Ortelli, N. Dimitratos, A. L. Costa, G. Paul, E. Gianotti, G. Fornasari, **S. Albonetti** (Italy)

10:50 DES-OL-13

Designing catalysts for cascade upgrading of biomass derived substrates

C. M. A. Parlett, C.-A. H. Price, S. Ding, A.Torres-Lopez, C. Drivas (UK)

11:10 DES-KL-03

Magnetic catalysts and catalytic magnets: never the twain?

E. Rebrov (Netherlands)

11:50 DES-OL-14

Iron based composite catalyst for magnetically-induced hydrogenation reactions in gas and solution phase

S. Ghosh, T. Ourlin, J. Mazario, S. Cayez, S. Daccache, J. Carrey, B. Chaudret (France)

12:10 DES-OL-15

Liquid metal boosting stability of methanol to hydrocarbons conversion

Y. Zhou[1], M. Shamzhy[2], M. Marinova[1], P. Simon[1], A. Y. Khodakov[1], **V. V. Ordomsky[1]** ([1]France, [2]Czechia)

12:30 – 14:30 ***Lunch break***

14:30 – 15:30 Catalyst design, novel catalytic materials 6

Chairpersons: N. Novak Tušar (Slovenia), A. Kirilin (Netherlands)

14:30 DES-KL-04

Ceria nanoparticles shape effects in catalysis

M. Konsolakis (Greece)

15:10 DES-OL-16

Perovskites as high performance reverse water gas shift catalysts

L. Lindenthal, F. Schrenk, H. Drexler, T. Berger, R. Rameshan, T. Ruh, T. Cotter, **C. Rameshan** (Austria)

15:30 – 16:00 ***Coffee break***

16:00 – 18:00 Catalyst design, novel catalytic materials 7

Chairpersons:

16:00 DES-OL-17

Towards efficient water oxidation catalysis using ruthenium coordination oligomers anchored through CH-π interactions

M. Gil-Sepulcre[1,2], O. Rüdiger[2], S. DeBeer[2], A. Llobet[1] ([1]Spain, [2]Germany)

16:20 DES-OL-18

Metal nanoparticles immobilized on functional supports: toward adaptive catalytic systems

A. Bordet, W. Leitner (Germany)

16:40 DES-OL-19

Hetero-bio catalytic systems for redox reactions

T. Sudmeier, K.A. Vincent, **S. Freakley** (UK)

17:00 DES-OL-20

Exploring the wide experimental parameters space: low temperature, sustainable and rational wet-chemistry approaches to heterogeneous catalysts

S. Gross (Italy)

17:20 DES-OL-21

Synthesis of high-entropy oxides for catalytic applications

A. J. Knorpp, M. Stuer (Switzerland)

17:40 DES-OL-22

Tailoring metal-support interactions via pseudo single-atom inverse catalyst system

L. Macheli, G. Leteba, B. Doyle, L. Jewell, E. van Steen (South Africa)

10:30 – 12:30 Biomass to chemicals and fuels 3

Chairpersons: A. Fukuoka (Japan), D. Laurenti (France)

10:30 BIO-OL-11

Furfural manufacture at high yield

J. P. Lange (Netherlands)

10:50 BIO-OL-12

Tunable Ru-Ni catalysts with controlled particle size for 5-hydroxymethylfurfural hydrodeoxygenation

A. Ruppert[1], M. Brzezinska[1,2], N. Keller[2] (Poland, France)

11:10 BIO-OL-13

Design of aluminum phosphate catalysts for selective valorization of biomass-derived furfural

W. Fang, **A. Riisager** (Denmark)

11:30 BIO-OL-14

Beyond γ-valerolactone: from levulinates to C5 and C7 esters through innovative continuous-flow processes in the gas phase

T. Tabanelli, L. Visentin, A. Ventimiglia, M. Berti, N. Dimitratos, I. Rivalta, S. Albonetti, L. Ardemani, N. Scotti and F. Cavani (Italy)

11:50 BIO-KL-02

Catalysis for sustainable fuels

P. Beato (Denmark)

12:30 – 14:30 Lunch break

14:30 – 15:30 Biomass to chemicals and fuels 4

Chairpersons: A. Dimitriadis (Greece), A. Margellou (Greece)

14:30 BIO-OL-15

BTEX from lignin using a novel molybdenum carbo-nitride@Titanium nitride catalyst

M. Y. Lui[1], A. K.L. Yuen[2], S. Bartlett[3], S. A. F. Masters[2], **T. Maschmeyer**[2] ([1]China, [2]Australia, [3]UK)

14:50 BIO-OL-16

A new method to control dispersion of transition metal catalysts and its application for biomass valorisation

M. Stockenhuber, P. Yan, E. Kennedy, L. Harvey, M. Drewery (Australia)

15:10 BIO-OL-17

Extending catalyst lifetime of Sn-Beta through tandem reduction/ re-oxidation treatment

J. S. M. Espin, A. Katerinopoulou, **S. Tolborg**, E. Taarning (Denmark)

15:30 – 16:00 Coffee break

16:00 – 18:00 Biomass to chemicals and fuels 5

Chairpersons: T. Maschmeyer (Australia), A. Ruppert (Poland)

16:00 BIO-KL-03

Biomass as feedstock for non-food applications

C. Pinel, V. Meille, N. Perret (France)

16:40 BIO-OL-18

Ceria-supported bimetallics as catalysts for upgrading of lignin to marine fuel

A. Radu, S. Kavoukis, P. D. Kouris, M. D. Boot, E. J. M. Hensen (Netherlands)

17:00 BIO-OL-19

Waste vegetable oil as a source of Green fuels

P. Reñones, D. García-Perez, J. M. Campos-Martin (Spain)

17:20 BIO-OL-20

Emulsion templated unsupported micropsherical catalysts for slurry phase hydrotreatment of lignocellulosic bio-oils

A. Reznichenko, T. Viertiö, A. Tuisku, E. Högnabba, J. Kihlman, J. Lehtonen (Finland)

17:40 BIO-OL-21

Effect of the catalyst support on the physico-chemical properties of low-cost FeNi catalysts for production of renewable fuels by dihydroeugenol hydrodeoxygenation

Z. Vajglová[1], P. Mäki-Arvela[1], O. Yevdokimova[1], I. Simakova[1,2], K. Eränen[1], T. Tirri[1], J. Lindén[1], D. Doronkin[3], D. Yu. Murzin[1] ([1]Finland, [2]Russia, [3]Germany)

Tuesday, August 29 South hall 3BC, 3rd floor

10:30 – 12:30 CO2 valorization 4

Chairpersons: B. Vandegehuchte (Belgium), G. Garbarino (Italy)

10:30 CO2-OL-08

High C_2-C_4 selectivity in CO_2 hydrogenation by particle size control of Co-Fe alloy nanoparticles wrapped on N-doped graphitic carbon

L. Peng[1], B. Jurca[2], A. Primo[1], A. Gordillo[3], H. Garcıa[1], **V.I. Parvulescu**[2] ([1]Spain, [2]Romania, [3]Germany)

10:50 CO2-OL-09

Role of metal oxide and zeolite in the direct CO_2 hydrogenation to light olefins over bifunctional catalysts

S. Chernyak[1], **M. Corda**[1], M. Marinova[1], O.V. Safonova[2], V. Kondratenko[3], E. Kondratenko[3], V.V. Ordomsky[1], A.Y. Khodakov[1] ([1]France, [2]Switzerland, [3]Germany)

11:10 CO2-OL-10

Carbon nitride-modified support materials for cobalt-based catalysts for the hydrogenation of CO_2

A. Barthelmeß, M. Wolf (Germany)

11:30 CO2-OL-11

Switching the selectivity of CO_2 hydrogenation over supported rh catalysts by phosphorous-loading

T. Shishido, K. Fukuda, M. Li, H. Miura (Japan)

11:50 CO2-OL-12

Selective CO2 hydrogenation to methyl formate using CO_2 as the sole carbon source

R.C. Turnell-Ritson, P.J. Dyson (Switzerland)

12:10 CO2-OL-13

Selectivity control between Reverse Water-Gas Shift and Fischer-Tropsch Synthesis in iron-based catalysts for CO_2 hydrogenation

W. Meng, B.C.A. de Jong, G.L. Bezemer, H.J. Heeres, J. Xie (Netherlands)

12:30 – 14:30 Lunch break

14:30 – 15:30 CO2 valorization 5

Chairpersons: W. Gac (Poland), L. Lietti (Italy)

14:30 CO2-OL-14

Hydroformylation with CO_2 through combined homogeneous and zeolite catalysis

H. Van Dessel, S. Van Minnebruggen, C. Marquez, D. De Vos (Belgium)

14:50 CO2-OL-15

The reactivity of oxygen vacancies of CeO_2-based mixed oxides toward CO_2 deoxygenation to CO

Nan-Chien Chiang, Ruo-Yun Lin, Chin-Ting Huang, Tzu-Hsun Tsai, Tz-Jie Ju,. **S.D. Lin** (Taiwan)

15:10 CO2-OL-16

Dual function material design for circular methanol economy

A.I. Paksoy[1], A. Goksu[1], T.R. Reina[1,2], M.S. Duyar[1] ([1]UK, [2]Spain)

15:30 – 16:00 Coffee break

16:00 – 18:00 CO2 valorization 6

Chairpersons: W. Gac (Poland), L. Lietti (Italy)

16:00 CO2-OL-17

Dyes as efficient metal-free catalysts for the synthesis of cyclic carbonates through the reaction of CO_2 cycloaddition to epoxides

J. Chen, P.P. Pescarmona (Netherlands)

16:20 CO2-OL-18

Insight the Ti nanotubes array nanostructure and its role on the electro reduction of CO_2-derived oxalic acid (OX)

F.P. Abramo, F. De Luca, A. Chiodoni, G. Centi, G. Giorgianni, S. Perathoner, **S. Abate** (Italy)

16:40 CO2-KL-02

Translational molecular catalysis: from challenging catalytic hydrogenations to open-loop recycling

J. Klankermayer (Germany)

17:20 CO2-OL-19

Production of eChemicals and eFuels using eREACTTM

S. De Sarkar, P.M. Mortensen, K.A. Petersen (Denmark)

17:40 CO2-OL-20

Electrocatalytic behaviour of CuS_x-Bi nanocrystals in CO_2 reduction using new engineered artificial leaf-type devices

D. Giusi, A.M. Ronsisvalle, C. Genovese, M. Miceli, G. Centi, S. Perathoner, **C. Ampelli** (Italy)

Tuesday, August 29 — North hall, 2nd floor

10:30 – 12:30 Surface science & atomic level models: experiment and theory 1

Chairpersons: Z. Sojka (Poland), V. Parvulescu (Romania)

10:30 SURF-OL-01

Real-time observation of catalytic hydrogen oxidation by in situ correlative surface microscopy

P. Winkler, J. Zeininger, M. Raab, Y. Suchorski, **G. Rupprechter** (Austria)

10:50 SURF-OL-02

Computed surface phase diagram for hydrogen on Pd surfaces

I. Kowalec,[1] H. I. Rivera-Arrieta,[2] A. Logsdail,[1] C. R. A. Catlow,[1] M. Scheffler[2], **D. J. Willock[1]** ([1]United Kingdom, [2]Germany)

11:10 SURF-OL-03

Rapid hydrogen mobility over Ru Nanoparticle-Doped polar MgO(111) surface

T. Yoskamtorn[1], J. Mo[1], L. Chen[2], S. Wu[1], S. Mukhopadhyay[1], A. Hawkins[1], X.-P. Wu[2*], S. C. E. Tsang[1] ([1]United Kingdom, [2]China)

11:30 SURF-OL-04

In situ NAP-XPS characterization of PdAg single crystals and polycrystalline thin films

I.-H. Svenum[1], M. D. Strømsheim[2], J. Knudsen[2], M. Mahmoodinia[1], A. Shavorskiy[2], J. Yu[1], V. Boix[2], T. Peters[1], **H. J. Venvik[1,2]** ([1]Norway, [2]Sweden)

11:50 SURF-OL-05

Atomic charges and a 10-Electron count rule to predict the relativity of single-atom alloy catalysts

R. Réocreux, J. Schumann, A. Michaelides, M. Stamatakis (United Kingdom)

12:10 SURF-OL-06

Thermodynamic and kinetic impacts of chlorine on Platinum single atoms supported on g -Al_2O_3 during calcination and reduction

A. Hellier, C. Chizallet, P. Raybaud (France)

12:30 – 14:30 Lunch break

13:30 – 14:30 Company symposium / ZEISS

ZEISS

Characterisation of environmental and new energy catalysts through electron and X-ray microscopy

Linking structure and catalytic properties

N. Moharrami

14:30 – 15:30 Catalyst characterization incl. operando methods: experiment and theory 3

Chairpersons: J. A.v. Bokhoven (Switzerland), K. Góra-Marek (Poland)

14:30 CHAR-OL-01

Outer atomic layer composition analysis of catalyst materials

T. Grehl, P. Bruener, R. ter Veen (Germany)

14:50 CHAR-OL-02

Operando spectroscopy explores the synergy between Pd and In_2O_3 for active CO_2 reduction catalysts

M. E. Potter[1], S. Mediavilla Madrigal[1], P. Benito[2], A. M. Beale[1] (United Kingdom)

15:10 CHAR-OL-03

Hydrogen production mechanism in low-temperature methanol decomposition catalyzed by Ni_3Sn_4 intermetallic compound: A combined operando and density functional theory investigation

S. Mauri[1], G. D'Olimpio[1], C. Ghica[2], L. Braglia[1], C.-N. Kuo[3], M. C. Istrate[2], Ch. S. Lue[3], L. Ottaviano[1], T. Klimczuk[4], D. W. Boukhvalov[5], A. Politano[1], P. Torelli ([1]Italy, [2]Romania, [3]Taiwan, [4]Poland, [5]China)

15:30 – 16:00 ***Coffee break***

16:00 – 18:00 Catalyst characterization incl. operando methods: experiment and theory 4

Chairpersons: J. A. v. Bokhoven (Switzerland), K. Góra-Marek (Poland)

16:00 CHAR-OL-04

Ductility of Pd and Pt catalysts in presence of reactive adsorbates

A. Ricchebuono[1], E. Vottero[1], M. Carosso[1], A. Piovano[2], V. Crocellà[2], R. Pellegrini[1], P. Raybaud[2], C. Chizallet[2] and E. Groppo[1] ([1]Italy, [2]France)

16:20 CHAR-OL-05

Composition-driven differences in active site speciation and behavior in methane to methanol oxidation of copper exchanged chabazite

A. Brenig, J.W.A. Fischer, D. Klose, G. Jeschke, J.A. van Bokhoven, V.L. Sushkevich (Switzerland)

16:40 CHAR-OL-06

Decisive roles of peripheral promoters in promoting methanol selectivity of CO_2 hydrogenation over Cu-based catalysts

N. Phongprueksathat[1], S.R. Docherty[2], G. Noh[2], C. Copéret[2], A. Urakawa[1] ([1]Netherlands, [2]Switzerland)

17:00 CHAR-OL-07

Tracking the evolution of Ni-based single atom catalysts for the CO_2 electroreduction reaction: an operando XAS study assisted by machine learning techniques

A. Martini, J. Timoshenko, D. Hursán and B. Roldán Cuenya (Germany)

17:20 CHAR-KL-01

Nano-imaging chemical properties of zeolite catalysts

M. B. J. Roeffaers (Belgium)

10:30 – 12:30 Experiment and theory of catalytic reactions 3

Chairpersons: F. Zasada (Poland), T. Fjermestad (Norway)

10:30 REAC-SOL-01

Improvement of data and metadata quality in catalysis research: a use case collection methodology

N. Huskova, T. Petrenko, T. Boenisch (Germany)

10:40 REAC-SOL-02

Breaking barriers to kinetic modeling of CO_2 hydrogenation to hydrocarbons using machine learning

A. Fedorov, A. Perechodjuk, D. Linke (Germany)

10:50 REAC-SOL-03

Unsaturated dicarboxylic acid production from CO_2 and pyruvate with hybrid photo/bio catalytic system

M. Takeuchi, M. Higashi, Y. Amao (Japan)

11:00 REAC-SOL-04

Mechanistic investigations at the alumina/water interface

J. Rey[1], P. Clabaut[1], R. Réocreux[2], É. Girel[1], **C. Michel**[1] ([1]France, [2]UK)

11:10 REAC-SOL-05

The role of polaronic states in the enhancement of CO oxidation by single-atom Pt/CeO_2

M. M. Kauppinen[1], N. Daelman[2], N. Lopèz[2], K. Honkala[1] ([1]Finland, [2]Spain)

11:20 REAC-SOL-06

Tuning the metathesis performance of a molybdenum oxide-based catalyst by silica support acidity modulation and high temperature pretreatment

M. Myradova, A. Węgrzynowicz, A. Węgrzyniak, M. Gierada, P. Jodłowski, J. Łojewska, J. Handzlik, P. Michorczyk (Poland)

11:30 REAC-SOL-07

Understanding the acid catalyzed transformation of biorenewable lactones: solvent effects and rational design of solvated environment

M. Ussama[1], G. Shrivastav[1], R. Khare[3], J. A. Lercher[2,3], M. A. Haider[1] ([1]India, [2]USA, [3]Germany)

11:40 REAC-SOL-08

Green synthesis of DPA: catalyst screening and kinetic investigation

F. Orabona[1,2], F. Taddeo[2], K. Eränen[1], W. Perez Sena[1], L. Verdolotti[2], M. Di Serio[2], D. Y. Murzin[1], T. Salmi[1], V. Russo[1,2] ([1]Finland, [2]Italy)

11:50 REAC-SOL-09

Detecting ketenes as crucial reactive intermediates in catalysis

P. Hemberger (Switzerland)

12:00 REAC-SOL-10

Esterification of levulinic acid catalysed with metal(IV) phosphates: an efficient route to obtain fuel aditives

G. Rocha, F. Lopes (Portugal)

12:10 REAC-SOL-11

Approaching enzymatic catalysis with zeolites: an ab initio and experimental study of alkylaromatics competing reactions

P. Ferri[1], C. Li[1], M. Xie[2], D. Schwalbe,[2] M. Moliner,[1] R. Gómez-Bombarelli[2], A. Corma[1], **M. Boronat**[1] ([1]Spain, [2]USA)

12:20 REAC-SOL-12

The role of metal in the anaerobic and selective regeneration of NAD^+

J. Li, J. W. Burnett, C. Martinez Macias, R.l F. Howe, and **X. Wang** (UK)

12:30 – 14:30 ***Lunch break***

13:30 – 14:30 Company symposium / Heraeus

Heraeus
Precious Metals

Optimizing precious metal catalysts: Tailored solutions for unique applications

Get to know Heraeus and learn more about our broad product range of homogeneous and heterogeneous precious metal catalysts. Throughout the symposium, our experts will speak about the process of selecting the perfect precursor, substrate, and synthesis method to create the perfect catalyst tailored to meet each customer‘s specific needs.

Join our innovation journey and learn more about the story of our phosphine ligand for complex C-N couplings with Pd2(dba)3, accompanied by a showcase of our development of a Ru-catalyst for ammonia decomposition.

At Heraeus we are aware that every customer has their own requirements. That is why we offer a wide range of development solutions for the individual design of catalyst formulations and manufacturing processes. Find out more about our diverse manufacturing models, which range from tolling to customized catalyst development.

Additionally, we will highlight the cost effectiveness of precious metal-based catalysts through recycling loop strategies, which allow an efficient use of scarce precious metals.

Dominik Sperzel
Head of Sales - Chemical Catalysts

Dominik Sperzel has been working for Heraeus since more than 10 years. He held various commercial roles in the field of Chemical Products, Supported Catalysts, Emission Catalyst as well as Precious Metals Recycling. In his daily work, he supports clients to understand the impact of precious metals catalysts throughout their complete ‘loop’ – from the performance impact in chemical processes to the sustainable recycling of spent materials. His passion lies in new emerging catalyst challenges within the hydrogen economy and green chemistry space.

Dr. Detlef Gaiser
Technical Sales Manager - Chemical Products

Dr. Detlef Gaiser has work experience of almost 25 years in several technical positions in the chemical industry: research, production, application technology and technical sales. His passion is to understand complex technical contexts, find and explain solutions and of course turning these into profitable businesses. Some of his latest topics are: Homogeneous precious metal catalysts for fine chemicals & pharmaceuticals, precious metal salts & solutions, ruthenium as a conductor metal in semiconductor microchips.

14:30 – 15:30 Catalysts and reactors under dynamic conditions for energy storage and conversion 2

Chairpersons: E. Saraci (Germany), G. Mestl (Germany)

14:30 DYN-SOL-01

Elucidating the role of metallic Fe and Fe_3O_4 on the in-situ formation of steady-state phases responsible for efficient CO_2 hydrogenation to higher hydrocarbons

L. Kraußer, H. Lund, E. V. Kondratenko (Germany)

14:40 DYN-SOL-02

Dynamic hydrogen release from LOHC using a highly efficient catalyst coating

P. Nathrath, B. Baier, Y. R. Ramzi, J. Müller-Ebhardt, P. Wasserscheid, E. Hübner, **P. Schühle** (Germany)

14:50 DYN-SOL-03

Sulfur tolerance of Na-Ru/Al_2O_3 dual function material during the cyclic CO_2 capture and catalytic methanation

S. Cimino, E.M. Cepollaro, L. Lisi (Italy)

15:00 DYN-SOL-04

Enhanced $Ca_2Fe_2O_5$ composites for chemical looping reforming of methane

A. Strazzolini, M. Boaro, C. de Leitenburg, A. Trovarelli (Italy)

15:10 DYN-SOL-05

Stabilization of epitaxial OER catalysts by engineering transition metal composition and stacked layer geometries in perovskite oxides

A. Kaus, M. Maksumov, Z. Teng, L. Heymann, K. Kleiner, F. Hausen, F. Gunkel (Germany)

15:20 DYN-SOL-06

Hydrogen charge/discharge cycles via formic acid on Pd/activated carbon catalyst

M. R. Pelaez, M. I. Dominguez Leal, M. A.Centeno, **S. Ivanova** (Spain)

15:30 – 16:00 Coffee break

16:00 – 18:00 Catalyst design, novel catalytic materials 8

Chairpersons: K. H. L. Lejre (Denmark), C. Komnaris (Denmark)

16:00 DES-SOL-13

Bimetallic catalyst synthesis using galvanic displacement, electroless deposition methods and application for renewable chemical production

W. Diao (USA)

16:10 DES-SOL-14

Cenospheres from fly ashes as catalytic supports of high application potential

P. Rybowicz, Y. Vitushynska, B. Samojeden, A. Łagosz, M. Motak, M. Michalik, **A. Adamski** (Poland)

16:20 DES-SOL-15

Base catalysis of Lindqvist-type $[M_6O_{19}]^{8-}$ (M = Nb, Ta) clusters

S. Yamazoe, Y. Fujiki, H. Nagakari, V. Chudatemiya, **S. Kikkawa**, T. Matsuyama, N. Nakatani (Japan)

16:30 DES-SOL-16

Synthesis, characterization and purification of tailor-made polyoxometalate (POM) catalysts for catalytic applications via the lacunary anion $[PMo_9O_{34}]^{9-}$

J.-C. Raabe, M. J. Poller, J. Albert (Germany)

16:40 DES-SOL-17

Potential uses in heterogeneous catalysis of newly synthesized polyacid-functionalized mesoporous materials

J. Schneider, J. Richard, A. Phimphachanh, P. Lacroix-Desmazes, M. In, C. Gerardin, N. Marcotte, **N. Tanchoux** (France)

16:50 DES-SOL-18

Shielding effect of mesoporous catalysts for plasma-enhanced catalytic synthesis of ammonia under ambient conditions

Y. Wang, X. Tu (United Kingdom)

17:00 DES-SOL-19

Morphological tuning of perovskite-type oxides for enhanced catalytic activity

H. Drexler, J. Rollenitz, F. Schrenk, L. Lindenthal, C. Rameshan (Austria)

17:10 DES-SOL-20

Lewis acid zeolites by regioselective manipulation of germanosilicates

M. Shamzhy, J. Zhang, S. Abdi, J. Čejka (Czechia)

17:20 DES-SOL-21

A study of effect of the Ti loading on the reaction rate and of post-treatment of ammoximation of cyclopentanone using TS-1 as catalyst

A.Orozco-Saumell, I. Martínez-Salazar, J. M. Jiménez-Martín, J. I. Morán, R. Mariscal, M. L. Granados (Spain)

17:30 DES-SOL-22

Aluminophosphate CIT-16P having distorted erionite structure and Methanol-to-Olefins behavior of its transformation product SAPO-17

J. H. Kang[1], F. H. Alshafei[2], S. J. Cho[1], M. E. Davis[2] ([1]South Korea, [2]USA)

17:40 DES-SOL-23

Hidden limitations: lactate synthesis over Sn-BEA zeolites with record Sn contents synthesized by a novel bottom-up strategy

G. Ivanushkin, M. Dusselier (Belgium)

17:50 DES-SOL-24

Organic alkalis as an alternative for eco-friendly mechano-chemical synthesis of Layered Double Hydroxides-type catalysts

O.D. Pavel, B.-C. Jurca, R. Zăvoianu, R. Bîrjega, B. Cojocaru, V.I. Pârvulescu (Romania)

Tuesday, August 29 — Terrace 2A, 2nd floor

10:30 – 12:30 Catalyst characterization incl. operando methods: experiment and theory 2

Chairpersons: R. Bulanek (Czechia), K. Tarach (Poland)

10:30 CHAR-SOL-13

Bimetallic Pd-based catalysts for selective hydrogenation of butadiene

O.E. Brandt Corstius[1], H.L. Nolten[1], Z. Xu[2], E.J. Doskocil[2], J.E.S van der Hoeven[1], S.T. Roberts[3], G.S. Sunley[3], P.E. de Jongh[1] ([1]Netherlands, [2]USA, [3]UK)

10:40 CHAR-SOL-14

Origin of active sites on silica–magnesia catalysts in the one-step ethanol-to-butadiene Lebedev process

S. Chung, T. Li, T. Shoinkhorova, S. Komaty, A. Ramirez, I. Mukhambetov, E. Abou–Hamad, G. Shterk, S. Telalovic, A. Dikhtiarenko, P. Lavrik, X. Tang, J. Gascon, and J. Ruiz–Martinez (Saudi Arabia)

10:50 CHAR-SOL-15

Revealing activating and deactivating effects of carboxylic acids on polyoxometalate-catalysed three-phase liquid-liquid-gas reactions using theoretical and analytical tools

M. J. Poller, S. Bönisch, B. Bertleff, J. Raabe, A. Görling, and **J. Albert** (Germany)

11:00 CHAR-SOL-16

Operando XAS identifies monomeric Fe species in square planar geometry to be the active sites for low temperature NH_3-SCR of NO

D. Wierzbicki[1,2], D. Ferri[1], A.H. Clark[1], O.Kröcher[1], **M. Nachtegaal**[1] ([1]Switzerland, [2]Poland)

11:10 CHAR-SOL-17

Making iron active: highly-loaded bimetallic iron-cobalt catalysts for hydrogen release from ammonia

S. Chen, J. Jelic, D. Rein, S. Najafishirtari, F.-P. Schmidt, F. Girgsdies, L. Kang, A. Wandzilak, A. Rabe, D. E. Doronkin, K. Friedel Ortega, S. DeBeer, J.-D. Grunwaldt, R. Schlögl, T. Lunkenbein, F. Studt, and M. Behrens (Germany)

11:20 CHAR-SOL-18

Surface composition and adsorption dynamics in Fe-Co ammonia decomposition catalysts

L. Kang, S. DeBeer (Germany)

11:30 CHAR-SOL-19

Statistical insights into atomic distributions in single-atom catalysts through machine learning assisted image analysis

S. Mitchell[1], K. Rossi[1], D. Faust Akl[1], A. Ruiz Ferrando[2], F. Parés[2], V. Gimenez[2], X. Hai[3], J. Lu[3], D. GarciaGasulla[2], N. López[2], J. PérezRamírez[1] ([1]Switzerland, [2]Spain, [3]Singapore)

11:40 CHAR-SOL-20

Limits of detection for EXAFS characterization of single atom catalysts

J. Finzel, P. Christopher, **S. R. Bare** (US)

11:50 CHAR-SOL-21

Using light to sense the local temperature during catalytic reactions

T.S. Jacobs, F.T. Rabouw, B.M. Weckhuysen, W. van der Stam (Netherlands)

12:00 CHAR-SOL-22

Hard-Soft MCR-ALS of IR spectroscopic isotherms: an innovative method for the characterization of adsorption at the molecular scale

R. Aboulayt, P. Bazin, A. Vimont, S. Maury, C. Chizallet, A. Travert (France)

12:10 CHAR-SOL-23

Hard X-ray nanotomography reveals coking in technical catalysts

S. Weber[1], A. Diaz[2], D. Karpov[2], M. Kahnt[3], Y. Romanenko[1], S. Kotrel[1], J.-D. Grunwaldt[1], S. A. Schunk[1], T. L. Sheppard[1] ([1]Germany, [2]Switzerland, [3]Sweden)

12:20 CHAR-SOL-24

Tracking surface processes on water oxidizing anodes using high-sensitivity operando ellipsometry

K. Frey, J. S. Pap, D. Lukács, Z. Lábadi, D. Mukherjee, N. Szász, M. Németh, P. Petrik (Hungary)

14:30 – 15:30 Catalytic technologies for liquid or solid waste reduction or purification 2

Chairpersons: P. Pietrzyk (Poland), M. del M. Alonso-Doncel (Spain)

14:30 PUR-SOL-07

Degradation of pharmaceuticals in water by combined ozonation and catalytic technologies: Metoprolol

S. Saeid[1,2], **P. Tolvanen[1]**, A. Lahaye[1,3], P. Eklund[1], M. Kråkström[1], N. Kumar[1], T. Salmi[1] ([1]Finland, [2]USA, [3]France)

14:40 PUR-SOL-08

Composite and mixed oxides for degradation of water pollutants with H_2O_2 or peroxosulfates – generation of reactive species and catalytic activity

K. Sobańska, L. Wolski, J. Gryboś, D. Mucha, P. Leśniewska, M. Frankowski, **P. Pietrzyk** (Poland)

14:50 PUR-SOL-09

Performance of Al/Ga-MFI Nanosponges and Nanosheets in the catalytic pyrolysis of biomass and plastics

F. Artillo[1], Y. Zhang[2], **M. Alonso-Doncel[1]**, M. Mazur[2], P. Pizarro[1], K. Kalíková[2], J. Čejka[2], D.P. Serrano[1] ([1]*Spain,* [2]*Czechia)*

15:00 PUR-SOL-10

Chemical recycling of thermoplastic polymers with solid catalysts

M. S. Lehnertz, R. Palkovits (Germany)

15:10 PUR-SOL-11

Catalytic removal of brominated flame retardants from plastic waste

E. Olkkonen, P. Auvinen, V. Nissinen, K. Grönlund, M. Suvanto, J. Jänis, J. J. Saarinen (Finland)

12:20 PUR-SOL-12

Hydrogenolysis vs. Pyrolysis to convert polyethylene into Naphtha-like products using Ni-Based catalysts to close the gap in circular economy of Polyolefins

G. Celik, **A.C. Aydogdu**, A. Süerkan, B. Erkmen, A. Ezdesir (Turkey)

15:30 – 16:00 Coffee break

16:00 – 18:00 Environmental photocatalysis 3

Chairpersons: N. Keller (France), M. Kobielusz (Poland)

16:00 ENVP-SOL-01

Photocatalysts based on TiO_2 and activated carbon for the ethylene removal from air stream

A. M. Regadera-Macias**,** **S. Morales-Torres**, L. M. Pastrana-Martínez, F.J. Maldonado-Hódar (Spain)

16:10 ENVP-SOL-02

Innovative eco-friendly easily recoverable materials for olive mill wastewater treatment

M. G. Galloni, V. Nikonova, E. Falletta, C.L. Bianchi (Italy)

16:20 ENVP-SOL-03

Photocatalytic reduction of CO_2-to-CO using a CNQD·[Fe-p-TMA] hybrid assembly in water

L. Mistry, L. Le-Quang, G. Masdeu, W. Björkman, **H. Härelind**, M. Abrahamsson (Sweden)

16:30 ENVP-SOL-04

Photocatalytic Oxidation in the Fine Chemical Industry

W. Bonrath, T. Buchholz, **J. A. Medlock**, D. Miladinov, J. Schütz, R. T. Stemmler, Ch. Sparr, J. Wellauer (Switzerland)

16:40 ENVP-SOL-05

Simultaneous coupling of photocatalysis and Fenton-based processes: an efficient strategy for water treatment?

S. Gowrisankaran[1], M. Motola[1], H. Makarov[1], G. Mailhot[2], M. Brigante[2], **O. Monfort[1]** ([1]Slovakia, [2]France)

16:50 ENVP-SOL-06

ZnO/ZnS heterostructure photocatalyst for complete removal of azo dyes and fluoroquinolone antibiotics in wastewater

T. Chankhanittha, **S. Nanan** (Thailand)

17:00 ENVP-SOL-07

Synthesis and characterization of Ceria-Silica nanocomposites for CO_2 photocatalytic reduction

Yi-Ru Zhao, Po-Chih Tsao, I-Hsiang Tseng (Taiwan)

17:10 ENVP-SOL-08

Photocatalytic oxidation of isopropanol in the presence of organic coatings containing TiO_2 nanoparticles

S. Golbarg, K. Dam-Johansen, J. M. Christensen (Denmark)

17:20 ENVP-SOL-09

Synthesis of WO_3-Ag-AgCl films for application in continuous photocatalytic microreactors

P. H. Palharim[1,2], T. Bürgi[2], A. C. S. C. Teixeira[1] ([1]Brazil, [2]Switzerland)

17:30 ENVP-SOL-10

Visible-light photocatalytic activity screening of reduced TiO_2 in batch and flow: A sustainability analysis

A. Roibu, R. Udroiu, L. Andronic (Romania)

17:40 ENVP-SOL-11

Graphitic carbon nitride thin films for visible light pollutant degradation in photo-microreactor

P. Stavárek, P. Klusoň, D. Schimon, P. Dzik, T. Homola (Czechia)

17:50 ENVP-SOL-12

Photocatalytic H_2 Generation on TiO_2-based Catalysts and the Effect of the Reaction set-up Configuration on the Photocatalytic Effiency

S. Y. Toledo-Camacho[1], K. Wenderich[2], G. Mul[2], S. Contreras[1], F. Medina[1] ([1]Spain, [2]Netherlands)

Tuesday, August 29 Congress hall foyer 2nd & 3rd floor

18:00 – 20:00 Poster session 2

The full list of posters is available on pages 94–183.

9:00 – 10:00 Plenary lecture

Chairpersons: N. N. Tušar (Slovenia), G. Hutchings (United Kingdom)

9:00 PL 05

Identification of solids for true design and precise characterization of functional materials

B. Ohtani (Japan)

10:00 – 10:30 Coffee break

10:30 – 12:30 CO2 valorization 7

Chairpersons: T. Harmening (Germany), J. Southouse (United Kingdom)

10:30 CO2-OL-21

Unraveling the role of carbonates on the reverse water-gas shift reaction over solid Mn catalyst

M. Kock, J.J. Mielby, S. Kegnæs (Denmark)

10:50 CO2-OL-22

MXene-based catalysts for CO_2 hydrogenation

Y. Yan, L. Loupias, S. Célérier, F. Morfin, L. Piccolo (France)

11:10 CO2-OL-23

Competition between reverse water-gas shift reaction and methanol synthesis from CO_2: Influence of copper particle size

L. Barberis[1], A.H. Hakimioun[2], P.N. Plessow, N.K. Visser, J.A. Stewart[3], B.D. VandeGehuchte, F. Studt[2], **P.E. de Jongh**[1] ([1]Netherlands, [2]Germany, [3]Belgium)

11:30 CO2-OL-24

Tale of hot electrons of black gold as catalyst for storing solar energy into carbon dioxide

R. Verma, **V. Polshettiwar** (India)

11:50 CO2-OL-25

CO_2 activation on TiO_2 supported Pt with visible light

M. Huuhtanen[1], S. Berg[1], M. Mohl[1], A. Popov[1], M. Kärkkäinen[1], A. Dombovari[1], T. Laitinen[1], A. Bykov[1], K. Kordas[1], G. Johansson[2], D. Hedman[2,3], J.A. Larsson[2] ([1]Finland, [2]Sweden, [3]South Korea)

12:10 CO2-OL-26

Immobilized Ni particles over hydrotalcite support for CO_2 methanation reaction: On the nature of the active species and the kinetic aspects

Z. Boukha, **U. De La Torre**, J.R. González-Velasco (Spain)

12:30 – 14:30 Lunch break

10:30 – 12:30 Catalyst design, novel catalytic materials 9

Chairpersons: L. Olsson (Sweden), S. Gross (Italy)

10:30 DES-OL-23

$ZnFe_{2-x}Rh_xO_4$ mixed metal oxides as catalyst precursors in C1 chemistry

D. Delgado[1], G. Koch[1], S. Jiang[1], J. Kröhnert[1], X. Q. Tran[1], F. Schmidt[1], T. Lunkenbein[1], C.Galdeano Ruano[2], J. Gaona-Miguélez[2], R. Schlögl[1], P. Oña-Burgos[2], A. Trunschke[1] ([1]Germany, [2]Spain)

10:50 DES-OL-24

How can we profit from merging catalysis with photocatalysis?

W. Macyk, **T. Tabari**, J. Kuncewicz, M. Kobielusz, Z. Sojka (Poland)

11:10 DES-OL-25

Bottom-up synthesis of stable platinum dimers on cerium oxide for hydrogen release

M. J. Mekkering, P. C. M. Laan, G. Rothenberg, N. Yan (Netherlands)

11:30 DES-OL-26

Mn-promoted MoS2 as a catalyst for CO2 hydrogenation to methanol: Investigating the interaction between MoS2 and Mn oxides

G. A. S. Alves, G. Pacholik, T. Wagner, S. Pollitt, M. Latschka, R. Rameshan, C. Rameshan, K. Föttinger (Austria)

11:50 DES-KL-05

Size- and Composition--Selected subnanometer cluster catalysts in oxidative dehydrogenation and hydrogenation reactions

Š. Vajda (Czechia)

12:30 – 14:30 Lunch break

14:30 – 15:30 Catalyst design, novel catalytic materials 11

Chairpersons: E. Hensen (Netherlands), N. Barrabes (Austria)

14:30 DES-OL-27

Resolving the enhanced performance of Mn modified spinel based CO2 methanation catalysts by combining ex situ and operando analysis

T. Franken, D. Weber, **P. Schühle** (Germany)

14:50 DES-OL-28

High-Efficiency acid-base synergy ZrOxHy catalyst for amine regeneration in post-combustion CO2 capture process

C. Zhou[1], Y. Liao[2], B. F. Sels[1] (Belgium[1], China[2])

15:10 DES-OL-29

Exsolving Fe-X (X= Cu, Co) catalysts for CO2 to synthetic fuels

S. Saini, Q. Cai, K. Kousi (UK)

10:30 – 12:30 Catalytic technologies for liquid or solid waste reduction or purification 3

Chairpersons: A. Śrębowata (Poland), C. Pichler (Austria)

10:30 PUR-OL-01

Mechanocatalytic depolymerization of plastics

A. W. Tricker, Y. G. Chang, A. Osibo, K. L. Hebisch, V. S. Nguyen, **C. Sievers** (USA)

10:50 PUR-OL-02

Understanding of Fe reduction in the dechlorination of plastic waste derived pyrolysis oil using chlorobenzene as model compound

A. Moral, A. Kjønli, K. R. Rout, D. Chen (Norway)

11:10 PUR-OL-03

Succinic acid as central intermediate for the conversion of waste substrates to ethylene

C. M. Pichler [1,2], S. Bhattacharjee[2], E. Reisner[2] ([1]Austria, [2]UK)

11:30 PUR-OL-04

Sustainable olefin metathesis: Catalytic conversion of persistent plastics to propylene

V. Farkas,[1] M. Nagyházi,[1] P. T. Anastas,[2] J. Klankermayer,[3] **R. Tuba**[1] ([1]Hungary, [2]USA, [3]Germany)

11:50 PUR-OL-05

Wet air oxidation of a refinery wastewater using catalytic materials synthesized from an oily sludge

S. Jerez, M. Ventura, M.I. Pariente, J.A. Melero (Spain)

12:10 PUR-OL-06

Self-decontaminating protective clothes: Layer-by-Layer TiO_2 deposition for photocatalytic decontamination of Chemical Warfare Agents

M. Maël, B. Stéphane, V. Louis, K. Valérie (France)

12:30 – 14:30 Lunch break

14:30 – 15:30 Intermetallic compounds in catalysis 1

Chairperson: M. Armbrüster (Germany)

14:30 INMC-OL-01

Well-defined active sites in intermetallics: Consequence of nuclearity and composition in selective hydrogenation

G. A. Canning, K. MacIntosh, H. He, A. Nguyen, M. J. Janik, **R. M. Rioux** (USA)

14:50 INMC-OL-02

Design of multimetallic alloys highly efficient for oxidative dehydrogenation of propane using CO_2

S. Furukawa, F. Xing (Japan)

15:10 INMC-OL-03

Relationship between structure and catalytic reactivity of silica supported Ni-Ga nanoparticles for the hydrogenation of CO_2 to methanol

N. K. Zimmerli, P. M. Abdala, C. M. Müller (Switzerland)

10:30 – 12:30 Treatment of flue / exhaust gases 2

Chairpersons: T. Bílková (Czechia), A. Garbujo (Switzerland)

10:30 EXH-OL-01

Catalyst adhesion enhancement technology for metallic honeycomb substrates for energy and environmental applications using special coating techniques

J.-H. Choi, G. Kim, H. Jeongi (South Korea)

10:50 EXH-OL-02

Synthesis of palladium-based nanoparticles with tuneable sizes for catalytic applications

A. Kappelou, N. Muresan, D. Thompsett, L. Torrente (UK)

11:10 EXH-KL-01

Cleaning emissions from vehicles using catalysis

L. Olsson (Sweden)

11:50 EXH-OL-03

Atomically dispersed high-performance metal ensemble catalysts for pollution remediation beyond single-atom catalysts

H. Jeong, G. Kim, J.-H. Choi (South Korea)

12:10 EXH-OL-04

Enhancing the catalytic activity of Pd-based catalysts for methane oxidation by oxygen oscillations: From understanding catalysis in the laboratory to engine test rig experiments

O. Kröcher, M. Roger, M. Wang, P. Dimopoulos Eggenschwiler, D. Ferri (Switzerland)

12:30 – 14:30 Lunch break

14:30 – 15:30 Treatment of flue / exhaust gases 3

Chairpersons: T. Bílková (Czechia), A. Garbujo (Switzerland)

14:30 EXH-OL-05

Interplay of Pd nanostructure with redox properties of CeO_x and its influence on CO oxidation activity of Pd/CeO_2-TiO_2 catalysts

J. Mosrati, H. Atia, S. Bartling, S. Wohlrab, A. Abdel-Mageed (Germany)

14:50 EXH-OL-06

CO and hydrocarbon oxidation in catalytic particulate filters: Impact of catalyst microstructure and soot deposits

R. Knopp[1], M. Blažek[1], A. Lanza[2], E. Price[2], L. Phillipson[2], D. Bounechada[2], M. Svoboda[1], P. Kočí[1], A. York[2] ([1]Czechia, [2]UK)

15:10 EXH-OL-07

Understanding water-induced deactivation of palladium based methane oxidation catalysts

S. Mossin, R. L. Mortensen, K. H. Pedersen, H.-D. Noack, J. Mielby (Denmark)

10:30 – 12:30 Fine chemicals 1

Chairpersons: G. Vilé (Italy), E. Vyskočilová (Czechia)

10:30 FINE-KL-01

Green asymmetric organocatalysis

R. Šebesta (Slovakia)

11:10 FINE-OL-01

Palladium catalysts supported on biodegradable urea-based polymers in synthesis with CO

M. Markovič, P. Lopatka, P. Kóš, T. Gracza, T. Soták, **M. Králik** (Slovakia)

11:30 FINE-OL-02

Competing commercial catalysts: Unprecedented catalyst activity and stability of Mizoroki-Heck reaction in a continuous packed bed

N. Vucetic[1], P. Virtanen[1], A. Shchukarev[2], T. Salmi[1], **J.-P. Mikkola[1,2]** ([1]Finland, [2]Sweden)

11:50 FINE-OL-03

Supported gold nanoparticles as single-electron transfer catalysts for Cross-Coupling reactions

H. Miura, M. Doi, Y. Yasui, K. Ameyama, T. Shishido (Japan)

12:10 FINE-OL-04

A study of the acylation of 1,3-Benzodioxole over ion exchange resins

N. Schiaroli, T. Tabanelli, A. Guerrini, S. Billi, C. Lucarelli (Italy)

12:30 – 14:30 Lunch break

14:30 – 15:30 Surface science & atomic level models: experiment and theory 2

Chairpersons: M. Stockenhuber (Australia), A. Efstathiou (Cyprus)

14:30 SURF-OL-07

Computational identification of true active sites in electrocatalysis

M. Vandichel (Ireland)

14:50 SURF-OL-08

Unrevealing universal water-assisted chemical routes towards the oxygen evolution reaction at solid-liquid interfaces

F. Creazzo, R. Ketkaew, S. Luber (Switzerland)

15:10 SURF-OL-09

Towards more realistic simulations of catalysis: supported metal nanoclusters on oxide surfaces

E. Strugovshchikov[1], A. Salom-Català,[1] J. Pan,[1] K. Kaźmierczak,[2] D. Curulla-Ferre,[2] J.J. Carbó[1] and J.M. Ricart[1] ([1]Spain,[2]Belgium)

16:00 – 17:20 Open science: pathways for useful data sharing in catalysis

Chairpersons: P. S. F. Mendes (Portugal), J. Titus (Germany)

16:00

Opening

P. S. F. Mendes *(Portugal)*

16:05

Open Science @ NFDI4Cat – An Initiative towards open and FAIR data sharing

M. Libeau (Germany)

16:15

Learning Catalysis from data

N. López (Spain)

16:25

Towards thematic repository for materials science and engineering in Czech Republic

M. Cebecauer (Czechia)

16:35

How to develop FAIRed resources for precision cancer medicine

J. Tang (Finland)

Wednesday, August 30 Chamber hall, 3rd floor

10:30 – 12:30 Catalyst design, novel catalytic materials 10

Chairpersons: J. S. Pap (Hungary), S. Freakley (United Kingdom)

10:30 DES-SOL-25

Porous organic semiconductors: synthesis and heterogeneous photocatalysis

T. Kotnik, A. Pintar, G. Žerjav, S. Kovačič (Slovenia)

10:40 DES-SOL-26

Photocatalytic properties of COK-47, a versatile Ti (IV)-MOF for visible light driven hydrogen evolution reaction

P. Ayala, S. Naghdi, S.P. Nandan, J. Rath, S. Myakala, B. Fickl, H. Saito, M. C. Toroker, A. Cherevan, D. Eder (Austria)

10:50 DES-SOL-27

Structure engineering steer the photocatalytic activity of carbon nitride in organic synthesis

M. Melchonna[1], P. Fornasiero[1], G. Filippini[1], M. Marchi[1], F. Longobardo[1], E. Raciti[2], S.M. Gali[2], A. Actis[1], E. Salvadori[1], C. D'Agostino[3], L. Forster[3], D. Lee,[3] D. Beljonne[2], M. Chiesa[1], R. Lazzaroni[2], M. Prato[1] ([1]Italy, [2]Belgium, [3]UK)

11:00 DES-SOL-28

Plasmonic Cu_2SSe nanocrystals: chemical synthesis and applications

N. R. Manwar, J.C. Colmenares (Poland)

11:10 DES-SOL-29

MXenes quantum dots as photocatalysts for hydrogen evolution

H. García, **A.Primo** (Spain)

11:20 DES-SOL-30

2D molybdenum dichalcogenides by atomic layer deposition towards photo and electrocatalysis

J. Rodriguez-Pereira, R. Zazpe, J. Charvot, L. Hromadko, H. Sopha, F. Bures, J.M. Macak (Czechia)

11:30 DES-SOL-31

Pt nanoparticles, clusters and single atom sites on MoS2 sheets for electrocatalytic water splitting

T. Ollár, A. A. Koós, P. Vancsó, P. Kun, P. Nemes-Incze, J. S. Pap, K. Frey, L. Tapasztó (Hungary)

11:40 DES-SOL-32

Ultradispersed Mo sulfide catalysts: single atoms or few-atom clusters?

D. Ryaboshapka, L. Piccolo, C. Geantet, M. Aouine, P. Bargiela, V. Briois, P. Afanasiev (France)

11:50 DES-SOL-33

Towards catalyst design and databases for molecular OER catalysis

M. J. Craig, C. Clarke, T. Sommer, F. Kleuker, **M. García-Melchor** (Ireland)

12:00 DES-SOL-34

Engineering the solid state synthesis and processing of nickel boride nanocrystals for electrocatalytic application

J. Hong, L. Protesescu, P. Pescarmona (Netherlands)

12:10 DES-SOL-35

Electrodeposition synthesis of hierarchically structured $LaNi_{0.5}Co_{0.5}O_3$ nanosheets as the cathode of intermediate-temperature Li-O_2 battery

Q. Qiu, J. Wang, **P. Yao**, Y. Li (Finland)

12:20 DES-SOL-36

Supramolecular organocatalysis with novel BTA helical structure

A. Valverde-González, L. Bouteiller, M. Raynal (France)

12:30 – 14:30 Lunch break

14:30 – 15:30 Catalyst design, novel catalytic materials 12

Chairpersons: D. E. Bergbreiter (USA), G. Prieto (Spain)

14:30 DES-SOL-37

Synthetic considerations of functionalized cyclic and bicyclic (alkyl)(amino)carbenes

M. Nagyházi[1], V. Farkas[1,2], B. Almási[1,2], Á. Erdélyi[1], K. Varga[1], Á. Lukács[1], R. Tuba[1,2] ([1]Hungary, [2]USA)

14:40 DES-SOL-38

Design of organometallic complexes as precursors for catalysts with tuneable properties

L. Frederiksen, P. J. Dyson (Switzerland)

14:50 DES-SOL-39

Tunable materials with catalytic properties dedicated for chemical and biochemical processes

A. Chrobok (Poland)

15:00 DES-SOL-40

From theory to experiments and to application

M. P. Checinski, K. Stier (Germany)

15:10 DES-SOL-41

Exploration of the chemical space: Bridging experimental and computational tools as pathway towards machine learning application for catalyst design

O. Osterthun, J. Henkel, P. Resch, J. Klankermayer (Germany)

15:20 DES-SOL-42

Carbon nanofiber supported mixed Mo and W carbides for deoxygenation of lipid-based feedstocks

M. Führer, T. van Haasterecht, **J.H. Bitter** (Netherlands)

16:00 – 17:30 SUNERGY session

Introduction of the SUNERGY initiative

Prof. Gabriele Centi, ERIC/Univ. Messina

Prof. Bert Weckhuysen, Univ. Utrecht, SUNERGY initiative and Horizon Europe CSA SUNER-C

- History of the initiative
- Presentation of our technological roadmap and Strategic R & I agenda, achievements so far
- Path forward and large-scale R&I instrument opportunities

Round table/panel and interactive discussion with the audience

Open call to supporters to join the initiative

- How to get involved
- Opportunities
- Upcoming events

Wednesday, August 30 Terrace 2A, 2nd floor

10:30 – 12:30 Biomass to chemicals and fuels 6

Chairpersons: J. Grams (Poland), M. Grilc (Slovenia)

10:30 BIO-SOL-01

Unveiling periodic trends and steering hydrodeoxygenation activity in biofuels production: experimental and computational approach

S. Alkhoori[1], A. Dabbawala[1], M. Harfouche[2], G. Siakavelas[3], A. Latsiou[3], S. Alareeqi[1], D. Anjum[1], S. J. Hinder[4], M.A. Baker[4], M. Khaleel[1], L. Vega[1], M. A. Goula[3], K. Polychronopoulou[1,2] ([1]United Arab Emirates, [2]Jordan, [3]Greece, [4]United Kingdom)

10:40 BIO-SOL-02

Biofuels production via hydrocracking of hydrothermal liquefaction biocrude oil and lignocellulosic pyrolysis oil

A. Dimitriadis, N. Tourlakidis, G. Meletidis, S. Bezergianni (Greece)

10:50 BIO-SOL-03

The key to obtain a high yield of renewable jet fuel from hydroprocessing of fatty acids and esters

A. S. Andersson, U. V. Mentzel, R. G. Egeberg (Denmark)

11:00 BIO-SOL-04

Optimization in the deoxygenation of m-cresol by creating Ni-Nb interfaces

C. A. Teles, C. Ciotonea, S. Royer, F. Richard (France)

11:10 BIO-SOL-05

Bio-olefins from crude industrial waste glycerol and sugar alcohols via Ru-catalyzed hydrodeoxygenation in ionic liquids

K. Janssens, D. E. De Vos (Belgium)

11:20 BIO-SOL-06

Optimization of catalytic system and process conditions for the oxidation of bio-based HMF solution in batch and continuous flow

D. Neukum, E. Saraçi, L. Baumgarten, D. Wüst, B. B. Sarma, A. Kruse, J.-D. Grunwaldt (Germany)

11:30 BIO-SOL-07

Polyoxometalate based catalysts for the oxidative hydrolysis of cellulose to glycolic acid

A. K. Beine[1], Z. Li[2], X. Yi[2], R. Palkovits[1], C. Liu[2], X. Wang[2] ([1]Germany, [2]China)

11:40 BIO-SOL-08

Oxidation of cyclohexane to KA oil using noble metal-free Ce and Zr-based mixed oxides

A. Vomeri[1], M. Stucchi[1], A. B. Hungria[2], J. J. Calvino[2], L. Prati[1] ([1]Italy, [2]Spain)

11:50 BIO-SOL-09

The dehydration of fructose to 5-HMF over hierarchical USY zeolites: mechanistic aspects and catalyst optimization

Y. Han, K. Larmier, **G. Pirngruber** (France)

12:00 BIO-SOL-10

Selective hydrodeoxygenation of palm fatty acid distillate to produce n-paraffin with even carbon number

E. W. Qian, T. Simomura, K. Kamiya (Japan)

12:10 BIO-SOL-11

Enzymatic epoxidation of fatty acids: catalysis, kinetics and process intensification by acoustic irradiation

T. Salmi, A. F. Aguilera, W. Wikström, P. Lindroos, P. Tolvanen, K. Eränen (Finland)

12:20 BIO-SOL-12

Copper manganese spinel oxide for enhanced solvolysis of technical lignin

D. F. de Waard, P. D. Kouris, M. D. Boot, E. J. M. Hensen (Netherlands)

12:30 – 14:30 Lunch break

14:30 – 15:30 Fine chemicals 2

Chairpersons: R. Šebesta (Slovakia), P. Mäki-Arvela (Finland)

14:30 FINE-SOL-01

[$MnBr(CO)_5$] as a Precatalyst for the Selective Oxidation of Silanes into Silanols with Water

E. Antico, M. Leutzsch, N. Wessel, T. Weyhermüller, C. Werlé, W. Leitner (Germany)

14:40 FINE-SOL-02

Transaminase-membrane reactor for intensified chiral amines synthesis

H. Meersseman[1], T. Leyssens[1], P. Luis[1], F. Paradisi[2], D. P. Debecker[1] ([1]Belgium, [2]Switzerland)

14:50 FINE-SOL-03

NENU-5 as precursor of Mo_2C for the syntheis of Anilines

A. Ortega Trigueros[1], D. Villalgordo Hernández[1], I. Such Bañez[1], J. Juan Juan[1], C. Marini[1], E.V. Ramos Fernández[1], M. Caccia[2], **J. Narciso**[1] ([1]Spain, [2]USA)

15:00 FINE-SOL-04

Florol synthesis via Prins cyclization over hierarchical zeolites of different types and composition

N. Shcherban[1,3], R. Barakov[1], J. E. Sánchez-Velandia[2], M. Kurmach[1], O. Shvets[1], P. Mäki-Arvela[3], D. Yu. Murzin[3] ([1]Ukraine, [2]Spain, [3]Finland)

15:10 FINE-SOL-05

Continuous - flow selective hydrogenation processes towards the formation of pharmaceutical intermediates

B. Zawadzki[1], R. Abid[1], J. Kocik[2], M. Krawczyk[1], D. Lisovystkiy[1], G. Słowik[1], K. Matus[1], W. Patkowski[1], W. Raróg – Pilecka[1], **A. Śrębowata**[1] ([1]Poland, [2]Czechia)

15:20 FINE-SOL-06

Hydrogenation of *N*-heteroaromatics over SiO_2-supported Ni–Ir alloy catalyst

M. Tamura, Y. Nakagawa, K. Tomishige (Japan)

Thursday, August 31 — Congress hall

9:00 – 10:00 Plenary lecture

Chairpersons: R. Tuba (Hungary), D. Fogg (Canada)

9:00 PL 06

Catalysis and sustainability: a journey from atom to planet

J. Pérez-Ramírez (Switzerland)

10:00 – 10:30 Coffee break

10:30 – 12:30 Experiment and theory of catalytic reactions 3

Chairpersons: T. Pigeon (France), M. Stucchi (Italy)

10:30 REAC-OL-10

Mechanism of CO-PROX reaction over mixed and bare cobalt spinel catalysts revealed – DFT and isotopic investigations

F. Zasada, C. Hudy, K. Steenbakers, Z. Sojka (Poland)

10:50 REAC-OL-11

Ab-initio study of Pd-based alloy catalysts for CO_2 hydrogenation to fuel

I. Kowalec, L. Kabalan, Z. Lu, C. R. A. Catlow, A. Logsdail (UK)

11:10 REAC-OL-12

Continuous oxidation of methane into methaol by N_2O over Cu-Zeolite: a combined experimental and theoretical study

N. Liu, B. Chen, N. Wang (China)

11:30 REAC-OL-13

Oxidative dehydrogenation of alcohols on gold: an experimental and computational study on the role of water and the alcohol chain length

L. Mastroianni[1,2], T. Weckman[1], M. Di Serio[2], V. Russo[2], T. Salmi[1], K. Honkala[1], D. Yu. Murzin[1] ([1]Finland, [2]Italy)

11:50 REAC-OL-14

Modelling the methanol to dimethyl ether reaction – coupling kinetic with transport from Å to cm scale

T. Fjermestad[1], R. Uglietti[2], D. Micale[2], M. Bracconi[2], A. Phan[3], A. Striolo[3,4], F. Iacoviello[3], S. Svelle[1], M. Maestri[2] ([1]Norway, [2]Italy, [3]UK, [4]USA)

12:10 REAC-OL-15

Continuous hydrogen production from liquid-phase formic acid dehydrogenation over Pd/AC catalyst: a modelling study

C. M. Lopez, A. Quintanilla, J.A. Casas (Spain)

12:30 – 14:30 ***Lunch break***

Thursday, August 31 South hall 2AB, 2nd floor

10:30 – 12:30 Photo-driven processes for fuel and organic synthesis 1

Chairpersons: J. Sá (Sweden), J. Pérez-Ramírez (Switzerland)

10:30 PHDP-KL-01

Electrophotocatalysis: Combining light and electricity to promote reactions

T. H. Labmert (USA)

11:10 PHDP-OL-01

Generation and utilization of oxygen centred radicals in C–C and C–O bond forming processes

C.-J. Wallentin (Sweden)

11:30 PHDP-OL-02

Heterogeneous photocatalysis for sustainable organic transformations: Challenges and opportunities

R. Whitehead, **A. Lanterna** (UK)

11:50 PHDP-SOL-01

Photocatalytic production of hydrogen peroxide in seawater

T. Freese, J. T. Meijer, G. Alachouzos, M.C.A. Stuart, R. Tarozo, D. Gerlach, P. Rudolf, B. L. Feringa (Netherlands)

12:00 PHDP-SOL-02

Limitation of molecular twisting: Upgrading a donor-acceptor dye to drive H_2 evolution

K. Zhu, A. P. Rodríguez, M. Brands, T. de Haas, F. Buda, J. N.H. Reek, **G. Mul**, A. Huijser (Netherlands)

12:10 PHDP-SOL-03

An efficient metal-organic framework-derived nickel catalyst for the light-driven methanation of CO_2

A. Sousa, D. Mateo, I. Khan, G. Shterk, T. Shoinkhorova, D. Poloneeva, L. Garzon-Tovar, J. Gascon (Saudi Arabia)

12:20 PHDP-SOL-04

Photo-electrochemical oxygen evolution activity in nickel and cobalt antimonates

M. Bajdich, K. K. Rao, L. Zhou, P. Basera, Y. Lai, M. H. Richter, X. Li, Y. Lu, J. Yano, J. M. Gregoire (USA)

12:30 – 14:30 ***Lunch break***

14:30 – 15:30 Catalyst design, novel catalytic materials 14

Chairpersons: E. Rebrov (Netherland), D. Murzin (Finland)

14:30 DES-KL-06

Catalysis at the metal-support interface: about nanoparticles, clusters and single metal atoms

E. Hensen (Netherlands)

15:10 DES-OL-30

Synergetic effect of Pt,Cu and Au in metal nanoclusters on CeO2 as atomically precise active sites for WGS reaction: structural dynamics by operando XAFS and DRIFTS studies

N. Müller, R. Banu, A. Loxha, L. Lindenthal, F. Schrenk, N. Barrabés (Austria)

15:30 – 16:00 Coffee break

16:00 – 18:00 Catalyst design, novel catalytic materials 15

Chairperson: E. Rebrov (Netherland)

16:00 DES-OL-31

Metal nanoclusters for catalysis

A. Weilhard[1], B. Young[1], H. Azim[1], L. Norman[1], E. C. Kohlrausch[1], I. Cano[2], **J. A. Fernandes**[1] ([1]UK, [2]Spain)

16:20 DES-OL-32

A winning combination of CuFe oxide clusters and δ-alumina support for low temperature total catalytic oxidation of volatile organic compounds

T. Žumbar,[1] P. Djinović,[1] I. Arčon,[1] A- Pintar[1], M. Popova,[2] N. Zabukovec Logar,[1] **N. Novak Tušar**[1] ([1]Slovenia, [2]Bulgaria)

16:40 DES-OL-33

Highly-porous conjugated polyelectrolytes for water absorption and visible light photocatalysis

S. Kovačič, S. Jurjevec, T. Kotnik, G. Žerjav, A. Pintar (Slovenia)

17:00 DES-OL-34

Deciphering the mechanism of crystallization of MIL-53 and UiO-66 metal-organic frameworks

O. Semivrazhskaya, D. Salionov, A. Clark, N. Casati, M. Nachtegaal, M. Ranocchiari, S. Bjelić, R. Verel, J. van Bokhoven, **V. Sushkevich** (Switzerland)

17:20 DES-KL-07

Engineering of catalytic cycles in redox reactions

D. Chen (Norway)

Thursday, August 31 Panorama hall, 1st floor

10:30 – 12:30 Gas to liquids conversion 1

Chairpersons: A. Adamski (Poland), C. Hulteberg (Sweden)

10:30 GTL-OL-01

Activation of small molecules over binuclear centres embedded in various zeolite topologies

E. Tabor[1], S. Sklenak[1], K. Mlekodaj[1], A. Kornas[1], D.K. Wierzbicki[2], M. Lemishka[1], R. Pilar[1], J.E. Olszowka[2], **J. Dedecek**[1] ([1]Czechia, [2]Switzerland)

10:50 GTL-OL-02

Nonoxidative dehydrogenation of methanol to dimethoxymethane over Cu/Hβ-zeolite bifunctional catalysts with tailored acidic sites

C. M. Asmelash, R. Sun, C. H. Gierlich, R. Palkovits (Germany)

11:10 GTL-OL-03

In-situ synthesis of SAPO-34 on γ-Al_2O_3 microspheres: a suitable fluidized-bed catalyst for methanol conversion to light olefins

M. Ghavipour, J. Kopyscinski (Canada)

11:30 GTL-OL-04

Phosphorus deactivation of cobalt-based catalysts for Fischer-Tropsch Synthesis

O. Ivanez Encinas, A. San Martin, E. A. Blekkan (Norway)

11:50 GTL-KL-01

Intensification of catalytic processes for the synthesis of hydrocarbons from renewable feedstocks

S. Escolástico, M. Balaguer, L. Almar, J.M. Serra, **A. Martínez** (Spain)

12:30 – 14:30 ***Lunch break***

14:30 – 15:30 Catalyst characterization incl. operando methods: experiment and theory 5

Chairpersons: S. Mitchell (Switzerland), S. Vajda (Czechia)

14:30 CHAR-OL-08

HERFD-XAS study on molecular adsorption states of strong base metal oxide cluster catalysts

T. Matsuyama, H. Nagakari, S. Kikkawa, N. Kawamura, K. Higashi, N. Nakatani, S. Yamazoe (Japan)

14:50 CHAR-OL-09

Operando IR-GC-MS investigations for catalytic recycling of polyolefins on zeolites

K.A. Tarach[1], M. Akouche[3], J. Martinez-Triguero[2], K. Pyra[1], F. Rey[2], V. Valtchev[3], J.-P. Gilson[3], **K. Góra-Marek**[1] ([1]Poland, [2]Spain, [3]France)

15:10 CHAR-OL-10

Development of metal-ion DNP NMR technique for characterization of MOF-based Catalysts

I. B. Moroz, Y. Feldman, M. Leskes (Israel)

15:30 – 16:00 ***Coffee break***

16:00 – 18:00 Catalyst characterization incl. operando methods: experiment and theory 6

Chairpersons: S. Mitchell (Switzerland), S. Vajda (Czechia)

16:00 CHAR-KL-02

Heterogeneous catalysts under pressure

J. A.van Bokhoven (Switzerland)

16:40 CHAR-OL-11

What is my catalyst doing? New insights into Rh/P - catalysed olefin hydroformylation from multi-nuclear operando FlowNMR Spectroscopy

A. Bara-Estaún, C. Lyall, J. Lowe, **U. Hintermair** (UK)

17:00 CHAR-OL-12

Using NAP-XPS to elucidate when the surface of cobalt and promoted cobalt Fischer-Tropsch catalysts can become oxidised by water

K. L. MacIntosh, N. Novruzova, A. Zachariou, M. Almashnowi, E. Olivas, A. Marsh, **S. K. Beaumont** (UK)

17:20 CHAR-OL-13

Operando Raman spectroscopy in the liquid phase for the characterization of diols conversion on layered catalysts

H. Bekkali, P. Boullay, **G. Clet** (France)

17:40 CHAR-OL-14

Nanoscale chemical diversity of coke deposits on metal nanocatalysts visualized by tip-enhanced Raman spectroscopy

M. Filez, C. Detavernier, H. Uji-I, M. B. J. Roeffaers (Belgium)

Thursday, August 31 South hall 3BC, 3rd floor

10:30 – 12:30 Biomass to chemicals and fuels 7

Chairpersons: C. Pinel (France), V. Cortés Corberán (Spain)

10:30 BIO-OL-22

Metal oxides-supported Ru- as catalysts for the hydrodeoxygenation of lignin model compounds

Z. H. Ausejo, Raquel Peláez, G. Prieto, **M. E. Domine** (Spain)

10:50 BIO-OL-23

Influence of sulfation on activity & stability of metal oxide catalysts for vapor-phase ketonisation of volatile fatty acids

G. Deshmukh, M. Delarmelina, A. Goguet, R. Catlow, **H. Manyar** (United Kingdom)

11:10 BIO-OL-24

Glycerol derivatives as bio-based C1 building blocks for N-formylation of amines to formamides with O2 as the oxidant

X. Dai[1], A. Brückner[1], F. Shi[2], J. Rabeah[1] ([1]Germany, [2]China)

11:30 BIO-OL-25

Catalytic conversion of biobased ketones to renewable aromatics: Influence of solid acid catalysts and reaction engineering

P. Reif, **M. Rose** (Germany)

11:50 BIO-OL-26

Vapour phase upgrading of acetic acid over noble metal promoted metal oxides at hydropyrolysis conditions: reaction mechanisms and pathways

P. Tingelstad, D. Chen (Norway)

12:10 BIO-OL-27

Stepwise approach for selective FFCA and FDCA production from HMF

J.J. Wiesfeld[1], R. Osuga[1], E.J.M. Hensen[2], K. Nakajima[1] ([1]Japan, [2]Netherlands)

12:30 – 14:30 Lunch break

14:30 – 15:30 Biomass to chemicals and fuels 8

Chairpersons: M. Rose (Germany), M. Domine (Spain)

14:30 BIO-OL-28

Aqueous-phase reforming of ethylene glycol over platinum-based catalysts supported on functionalised carbon nanofibres

M. P. Urrea[1], F. Herold[1], S. Meilinger[1], E. Tusini[2], A. De. Giacinto[2], A. Zimina[2], D. Chen[1], M. Casapu[2], J.-D. Grunwaldt[2], **M. Rønning**[1] ([1]Norway, [2]Germany)

14:50 BIO-OL-29

Continuous synthesis of nylon intermediates from bio-based g -valerolactone

A. Marckwordt, **V.N. Kalevaru**, S. Tin, J.-G. de Vries, S. Wohlrab (Germany)

15:10 BIO-OL-30

Selectively oxidizing methane to formaldehyde over platinum nanoalloy catalysts in the presence of water

S. V. L. Mahlaba, G. M. Leteba, A. Govender, E. J. Olivier, E. van Steen (South Africa)

15:30 – 16:00 Coffee break

16:00 – 18:00 Electrocatalysis, including fuel cells 2

Chairpersons: A. Tompos (Hungary), M. Florea (Romania)

16:00 ELE-OL-01

Strategies to improve CO tolerance and corrosion resistance of Pt electrocatalysts for polymer electrolyte membrane fuel cells

I. Borbáth[1], K. Salmanzade[1], E. Tálas[1], Z. Pászti[1], A. Kuncser[2], Ş. Neaţu[2], M. Florea[2], I.E. Sajó[1], D. Olasz[1], Gy. Sáfrán[1], A. Tompos[1] ([1]Hungary, [2]Romania)

16:20 ELE-OL-02

Well-defined nanocatalysts for selective CO_2 electroreduction

R. Buonsanti (Switzerland)

16:40 ELE-KL-01

(Photo)electrocatalysis: facing the challenge of extending its use to go beyond fossil fuels

C. Genovese, C. Ampelli,G. Centi, **S. Perathoner** (Italy)

17:20 ELE-OL-03

Toward enhancement of activity of Low-Pt-Content-Electrocatalysts for oxygen reduction

P. J. Kulesza, I. A. Rutkowska, A. Kostuch, S. Zoladek (Poland)

17:40 ELE-OL-04

Tailoring of Fe single-atoms on hollow carbon spheres for the oxygen reduction reaction

R. S. Ribeiro[1], A. L. S. Vieira[1], J. J. Delgado[2], R. G. Morais[1], N. Rey-Raap[2], R. P. Rocha[1], **M. F. R. Pereira**[1] (Portugal, Spain)

10:30 – 12:30 Environmental photocatalysis 4

Chairpersons: K. Kočí (Czechia), D. Dvoranová (Slovakia)

10:30 ENVP-OL-08

TiO_2 and CeO_2 systems modified with photo-reduced graphene oxide for photocatalytic applications

S. A. Balsamo, **R. Fiorenza**, S. Scirè (Italy)

10:50 ENVP-OL-09

Carbon spheres modification and activation for CO_2 capture and utilization

E. Kusiak-Nejman, F. Latzke, K. Ćmielewska, A. Wanag, J. Kapica-Kozar, E. Ekiert, I. Pełech, A.W. Morawski, U. Narkiewicz (Poland)

11:10 ENVP-KL-02

Metal-organic Frameworks as versatile solar photocatalysts for overall water splitting

H. García Gomez (Spain)

11:50 ENVP-OL-10

Selective and efficient photocatalytic reduction of 3-Nitrophenol to 3-Aminophenol by anatase and rutile TiO_2 – What stands behind the photoactivity?

K. Yaemsunthorn, W. Adamowicz, M. Kobielusz, W. Macyk (Poland)

12:10 ENVP-OL-11

The design of new $SrTiO_3$-based catalysts for photocatalytic CO_2 reduction applications

B. Boga[1,2], N.G. Moustakas[1], P. Naliwajko[1], A.B. Ngo[1], S. Ding[1], T. Peppel[1], N. Steinfeldt[1], V.M. Cristea[2], J. Strunk[1] ([1]Germany, [2]Romania)

12:30 – 14:30 Lunch break

14:30 – 15:30 Treatment of flue / exhaust gases 4

Chairpersons: P. Kočí (Czechia), M. Stockenhuber (Australia)

14:30 EXH-OL-08

Stability of highly dispersed Pd/CeO_2 and Pt/CeO_2 catalysts under realistic three way catalysis conditions

V. Jestl[1], V. Muravev[1], T. Bell[2], A. Kolpin[2], D. Thompsett[2], E. Hensen[1] ([1]Netherlands, [2]UK)

14:50 EXH-OL-09

Intra-catalyst CH_4-oxidation pathways of a three-way catalyst and implications on NO_x-conversion profiles for a natural gas vehicle exhaust under lambda modulation

W. Partridge, D. J. Deka, C. Thomas, J. Pihl (US)

15:10 EXH-OL-10

Competition between NO reduction and NH_3 oxidation during SCR reaction on CuSSZ-13 catalysts shown by isotopic $^{15}NH_3$ and $^{18}O_2$ and 2D COS IR investigations supported by DFT modelling

F. Zasada[1], M. Fedyna[1], B.Mozgawa[1], J. Gryboś[1], Ch. Yin[2], K. Gora-Marek[1], P. Pietrzyk[1], Zhen Zhao[2], **Z. Sojka**[1] ([1]Poland, [2]China)

15:30 – 16:00 Coffee break

16:00 – 18:00 Treatment of flue / exhaust gases 5

Chairpersons: P. Kočí (Czechia), M. Stockenhuber (Australia)

16:00 EXH-OL-11

Understanding the influence of Cu-sites during NH_3-SCR of NOx in the presence of HCHO

S. Barth, D. Zengel, M. Casapu, J.-D. Grunwaldt (Germany)

16:20 EXH-OL-12

Sulfur poisoning of Cu/SSZ-13 selective catalytic reduction catalysts

W. Epling, Y. Chen, P. Rani, L. Wei, K. Mandal, R. Daya, C. Paolucci (US)

16:40 EXH-OL-13

In situ SO_2 poisoning and deactivation measurements of Cu exchanged zeolite catalysts in NH_3-SCR reaction

R. K. Abasabadi[1,2], P. N. R. Vennestrøm[2], F. Wen[3], S. Bordiga[1], E. Borfecchia[1], G. Berlier[1], T. V. W. Janssens[2] ([1]Italy, [2]Denmark, [3]Germany)

17:00 EXH-OL-14

Low-temperature NO_x removal (NH_3-SCR) in the presence of water over Sodium Vanadium Bronzes

Y. Inomata, H. Kubota, Y. Honmatsu, S. Sakotani, K. Yoshida, T. Toyao, K.-i. Shimizu, **T. Murayama** (Japan)

17:20 EXH-OL-15

Coupling RHC and OHC kinetics to close the low-temperature NH_3-SCR redox cycle over Cu-CHA catalysts

N.D. Nasello[1], N. Usberti[1], U. Iacobone[1], F. Gramigni[1], W. Hu[2], S. Liu[2], I. Nova[1], X. Gao[2], **E. Tronconi**[1] ([1]Italy, [2]China)

17:40 EXH-OL-16

Experimental and modelling analysis of the Standard SCR mechanism over Cu-CHA catalysts: SAR and H_2O effects on RHC and OHC

N.D. Nasello[1], N. Usberti[1], U. Iacobone[1], **I. Nova**[1], E. Tronconi[1], R. Villamaina[2], M.P. Ruggeri[2], D. Bounechada[2], A. York[2] ([1]Italy, [2]UK)

18:00 – 20:00 YEuCat Meeting

What can you expect from the event?

- Presentation of YEuCat
- Testimonial about networking communities
- Get to know what a network can do for you
- Learn how you can get involved & shape the future of YEuCat

Thursday, August 31 Chamber hall, 3rd floor

10:30 – 12:30 Catalyst design, novel catalytic materials 13

Chairpersons: M. Behrens (Germany), A. Kotarba (Poland)

10:30 DES-SOL-43

What are the active sites on Ni/CeO_2 for CO_2 methanation?

S. Tada, R. Kikuchi (Japan)

10:40 DES-SOL-44

Modification of Rh/TiO_2 single atom catalysts with amine-fuctionalized organic monolayers to promote CO_2 hydrogenation

A.H. Jenkins, **J.W. Medlin** (United States)

10:50 DES-SOL-45

Ni-based solid solution catalysts for CO_x-free H_2 generation

B. Alkan, K. Dembele, G. Koch, C. Marshall, T. Lunkenbein, A. Trunschke (Germany)

11:00 DES-SOL-46

Tuning the catalytic properties of CuZn-based materials synthesized via flame spray pyrolysis and hydrothermal methods for the production of hydrogen from methanol

K.Ar. Papageorgiou[1], A. Zindrou[1], Y. Deligiannakis, M. Kuśmierz[2], G. Słowik[2], W. Gac[2], **J. Papavasiliou[1]** ([1]Greece, [2]Poland)

11:10 DES-SOL-47

Modification of supported Pt nanoparticles with basic metal oxide clusters for N-formylation reaction using CO_2 as a carbon source

Y. Matsunaga, S. Kikkawa, S. Yamazoe (Japan)

11:20 DES-SOL-48

Supported Pt and Pt/Ni nanoparticles from metal carbonyl clusters as effective catalysts for biobased molecules valorisation

F. Liuzzi, C. Cesari, N. Dimitratos, S. Zacchini, S. Albonetti (Italy)

11:30 DES-SOL-49

Dealumanation effect on the catalytic properties of Ni-BEA zeolite catalyst in the dry reforming of methane

D. Samoylenko[1], P. Kyriienko[1], S. Soloviev[1], I. Remezovskyi[1], S. Orlyk[1], S. Dzwigaj[2] ([1]Ukraine, [2]France)

11:40 DES-SOL-50

Encapsulated Ni-CeO_2 nanoparticles with SiO_2 shell for dry reforming of methane

J. Hyeon Kwon, J. Wook Bae (South Korea)

11:50 DES-SOL-51

Carbon nanofiber growth from methane over carbon-supported NiCu catalysts: Two temperature regimes

S. Schoemaker, T. Welling, D. Wezendonk, B. Reesink, A. van Bavel, P. de Jongh (Netherlands)

12:00 DES-SOL-52

Developing alumina-based cobalt catalyst for efficient hydrogen production via the ethanol steam reforming process

G. Grzybek, M. Greluk, A. Kierys, A. Sienkiewicz, J. Lupa, G. Słowik, M. Rudzińska, D. Potyczka, P. Stelmachowski, A. Kotarba (Poland)

12:10 DES-SOL-53

Pt single-atom catalyst (SAC) supported on the UiO-66(Ce) for the low-temperature CO oxidation reaction

S. Rojas-Buzo[1,2], B. Bohigues[2], D. Salusso[1], A. Corma[2], M. Moliner[2], S. Bordiga ([1]Italy, [2]Spain)

12:20 DES-SOL-54

Direct conversion of syngas to olefins over bifunctional catalysts: catalyst design for increased olefin yield and stability

G. Pollefeyt[1], V. P. Santos[1], D. F. Yancey[2], D. Nieskens[1], A. Kirilin[1], A. Malek[2] ([1]Netherlands, [2]USA)

12:30 – 14:30 Lunch break

14:30 – 15:30 Surface science & atomic level models: experiment and theory 3

Chairpersons: P. Granger (France), E. Gaigneaux (Belgium)

14:30 SURF-SOL-01

Innate dynamics of a metal surface unveiled by machine learning of atomic environments

M. Cioni[1], **D. Polino[2]**, D. Rapetti[1], L. Pesce[2], M. Delle Piane[1], G.M. Pavan[1,2] ([1]Italy, [2]Switzerland)

14:40 SURF-SOL-02

Catalytic materials screening by first-principles and machine learning: A case of CO2 utilization

S. Praserthdam, P. Praserthdam (Thailand)

14:50 SURF-SOL-03

Understanding the interaction of CH3Cl with Cu-based surfaces

I.-H. Svenum, S. Gouttebroze, F. L. Bleken (Norway)

15:00 SURF-SOL-04

Towards CO2 hydrogenation: A combined XPS and DFT study on In2O3(111) model crystals

S. M. Gericke[1], M. M. Kauppinen[1], M. Wagner[2], M. Riva[2], G. Franceschi[2], A. Posada-Borbón[1], A. B. Preobrajenski[1], L. Rämisch[1], S. Pfaff[1], S. Blomberg[1], L. R. Merte[1], J. Zetterberg[1], U. Diebold[2], H. Grönbeck[1], E. Lundgren[1] ([1]Sweden, [2]Austria)

15:10 SURF-SOL-05

A DFT Study on the role of oxygen vacancy on m-ZrO2 ( ) in adsorption and dissociation of CO2

D. M. Ozkan, A. Uzun, B. S. Caglayan, **A. E. Aksoylu** (Turkey)

15:20 SURF-SOL-06

CO2 activation on Ni(111) model catalysts at ambient conditions

R. B. David, A. B. Yaacov, B. Eren (Israel)

15:30 – 16:00 Coffee break

16:00 – 18:00 Biomass to chemicals and fuels 9

Chairpersons: H. Manyar (United Kingdom), E. W Qian (Japan)

16:00 BIO-SOL-13

The supported Cu-Ni bimetallic catalysts for vapor phase conversion of furfuryl aldehyde

J. Kaim, M. Śliwa, K. Samson, M. Zimowska, M. Ruggiero-Mikołajczyk, J. Podobiński, M. Witko, **D. Rutkowska-Zbik** (Poland)

16:10 BIO-SOL-14

Catalytic valorization of sugarcane molasses to 5-hydroxymethylfurfural (HMF) in water

K. M. Eblagon, J. L. Figueiredo, M. F. R. Pereira (Portugal)

16:20 BIO-SOL-15

Designed seafood waste-biochar catalysts for sustainable biorefinery

A. F. Peixoto, I. S. Marques, R. Matos, M. Monteiro, D. M. Fernandes (Portugal)

16:30 BIO-SOL-16

Comparison of oxygen and hydrogen peroxide as oxidants for obtaining furoic acid from furfural over supported gold catalysts

P. Rapado, L. Faba, **S. Ordóñez** (Spain)

16:40 BIO-SOL-17

Continuous-flow liquid-phase valorisation of furfural to γ-valerolactone over Ti/Zr/O catalysts

A. Allegri, A. Saotta, N. Dimitratos, G. Fornasari, S. Albonetti (Italy)

16:50 BIO-SOL-18

Selective C–O hydrogenolysis of terminal C–OH bond in 1,2-diols over rutile-titania-supported iridium-iron catalyst

B. Li, Y. Nakagaw, C. Li, M. Yabushita, K. Tomishige (Japan)

17:00 BIO-SOL-19

Evaluation of anisole deoxygenation reaction pathway over nickel catalyst

S. Dutta, B. Shumeiko, D. Kubička (Czechia)

17:10 BIO-SOL-20

Beneficial Mo-W synergy in supported catalysts for the HDO of m-cresol

B. Farah, C. Lamonier, C. Lancelot, P. Blanchard, F. Richard (France)

17:20 BIO-SOL-21

Bio-glycerol hydrodeoxygenation to propylene: Optimizing the reaction conditions and exploring the reaction routes over Mo-based catalyst

G. Ioannidou, A.A. Lemonidou (Greece)

17:30 BIO-SOL-22

Sulfided Ru/AC as a prospective catalyst for HDO in supercritical water

A. Kurlov, D. Baudouin, F. Vogel (Switzerland)

17:40 BIO-SOL-23

Crystal phase effects on the structure and performance of Nickle nanoparticles for H_2-free glycerol conversion to alanine

J. Li, P. P. Pescarmona (Netherlands)

17:50 BIO-SOL-24

Catalytic upgrading of bioethanol to ethylene over various hierarchical zeolite frameworks and zeolites@LDHs composites: From laboratory-scale to pilot-scale

C. Wattanakit, C. Rodaum, P. Iadrat, A. Thivasasith, M. Ketkaew, P. Pornsetmetakul, P. Chaipornchalerm, W. Nunthakitgoson, S. Tantisriyanurak, A. Prasertsab (Thailand)

Thursday, August 31 — Terrace 2A, 2nd floor

10:30 – 12:30 Electrocatalysis, including fuel cells 1

Chairpersons: R. Buonsanti (Switzerland), A. Tompos (Hungary)

10:30 ELE-SOL-01

Electrocatalytic activity in the oxygen evolution reaction of ordered mesoporous carbon-supported cobalt oxide nanoparticles

T. Darvishzad, A. Ejsmont, K. Kadela, G. Grzybek, , G. Słowik, M. Lofek, J. Goscianska, A. Kotarba, **P. Stelmachowski** (Poland)

10:40 ELE-SOL-02

In situ XAS investigation of carbon-supported single-site catalysts for water oxidation

W. Wan, L. Kang, Z. Chen, S. DeBeer, R. Schloegl, S. Heumann (Germany)

10:50 ELE-SOL-03

Electrocatalysts for alkaline oxygen reduction and evolution reactions

S. Wierzbicki, T. Darvishzad, J. Gryboś, P. Stelmachowski, Z. Sojka, **K. Kruczała** (Poland)

11:00 ELE-SOL-04

Activity and durability of hierarchical Fe-doped $Ni(OH)_2$/Ni catalysts for alkaline oxygen evolution reaction: In situ XANES studies

A. Cleetus, H. Teller, A.Schechter (Israel)

11:10 ELE-SOL-05

CuCr catalysts for ammonia electro-oxidation: A study on activity and selectivity

L. Liu[1], L. Kang[2], G. He[1], I. P. Parkin[1] ([1]UK, [2]Germany)

11:20 ELE-SOL-06

Porous graphitized Resorcinol-Formaldehyde (GRF) spheres/gels as highly stable supports for PEM fuel cells

H. Hosseini, A. Gunnarson, N. K. Tran, T. Imhof, M. Ledendecker, F. Schüth (Germany)

11:30 ELE-SOL-07

The role of ligand heteroatoms in electrocatalytic hydrogen evolution by iron(II) N-heterocyclic complexes

J. S. Pap, S. Keszei, T. Ollár, L. Tapasztó (Hungary)

11:40 ELE-SOL-08

Edge sites of MoS_2 catalysts are active for both HDS and HER reactions: the proof of concept

L. A. Zavala-Sanchez, K. Kumar, V. Martin, F . Maillard, X. Portier, F. Maugé, L. Dubau, **L. Oliviero** (France)

11:50 ELE-SOL-09

Electrosynthesis of ammonia with high selectivity and high rates via engineering of the solid-electrolyte interphase

S. Li, J. K. Nørskov, I. Chorkendorff (Denmark)

12:00 ELE-SOL-10

Application aspects of molten proton conductor fuel cell modules with internal methanol reformer

K. Kappis[1], Y. Li[2], J. Papavasiliou[1], H. Li[2], D.E. Vlachos[1], **G. Avgouropoulos[1]** ([1]Greece, [2]China)

12:10 ELE-SOL-11

CO_2 Electroreduction on bimetallic Au-Cu_2O catalysts

B. Ligt, M. C. Figueiredo, E. J.M. Hensen (Netherlands)

12:20 ELE-SOL-12

Multicarbon products by CO_2 electroreduction using polarized nickel catalysts

Y. Zhou[1], **A. J. Martín[2]**, F. Dattila[3], S. Xi[1], P. Preikschas[2], N. López[3], J. PérezRamírez[2], B. S. Yeo[1] (Singapore[1], Switzerland[2], Spain[3])

12:30 – 14:30 ***Lunch break***

14:30 – 15:30 Gas to liquids conversion 2

Chairpersons: F. Joensen (Denmark), A. Martínez (Spain)

14:30 GTL-SOL-01

Advancing high-yield strategies for methane partial oxidation to methyl derivatives with heterogeneous catalysis

A. Blankenship, Y. Ji, M. Ravi, M. Newton, J.A. van Bokhoven (Switzerland)

14:40 GTL-SOL-02

Significant enhancement of coking resistance in partial oxidation of methane over Fe-doped Ni/γ-Al_2O_3 catalysts

A. Khaleel, A. Pillantakath, A. Adamson (United Arab Emirates)

14:50 GTL-SOL-03

High performance of Fe-Mn/Nb_2O_5 catalysts in the Fischer-Tropsch Synthesis

H. S. T. Silva, D. P. S. Silva, G. G. Silva, A. G. M. Silva, **R. R. Soares** (Brazil)

15:00 GTL-SOL-04

Effect of CO_2 content in feed gas mixture for Fischer-Tropsch Synthesis over Co/SiO_2 catalyst

S. Satokawa, N. Wachi, H. Konno, A. Yanagita, K. Tashiro (Japan)

15:10 GTL-SOL-05

Direct conversion of carbon dioxide into liquid fuels and chemicals by coupling green hydrogen at high temperature

Y. Li, K. Cheng, Q. Zhang, Y. Wang (China)

15:20 GTL-SOL-06

Methylation of light alkenes and aromatics though step-wise reaction with methane in Cu-exchanged Zeolites

B. G. Solemsli[1], S. Prodinger[1], K. Kvande[1], G. Deplano[2], U. Olsbye[1], S. Bordiga[2], P. Beato[3], S. Svelle[1] ([1]Norway, [2] Itally, [3]Denmark)

15:30 – 16:00 ***Coffee break***

16:00 – 18:00 CO2 valorization 8

Chairpersons: P. Kukula (Czechia), M. Stockenhuber (Australia)

16:00 CO2-SOL-13

A Critical view on direct syngas to aromatics over combined Zinc Oxide on Zirconia and H-ZSM-5 catalysts

M.T. Nikolajsen, N.Ch. Schjødt, U.V. Mentzel, J. Sehested, J.M. Christensen, M. **Høj** (Denmark)

16:10 CO2-SOL-14

CO_2 upgrading via low-temperature RWGS reaction: operando mechanistic insights to guide an optimal catalysts design

G. Torres-Sempere, L.A. Luque-Álvarez, L.F. Bobadilla, T.R. Reina, L. Pastor-Pérez, **J.A. Odriozola** (Spain)

16:20 CO2-SOL-15

Pore size effects in porous Ag electrodes for electrochemical CO2 reduction

M.E.T. van Ittersum, C.J. Keijzer, K. van den Akker, P. Ngene, P.E. de Jongh (Netherlands)

16:30 CO2-SOL-16

Multifunctional materials for CO_2 capture and conversion

L.C. Buelens[1], V. Singh[1], S.K. Das[1,2], A. Longo[2], D. Poelman[1], H. Poelman[1], K.M. Van Geem[1], V.V. Galvita[1] ([1]Belgium, [2]France)

16:40 CO2-SOL-17

Reverse microemulsion synthesis promotes the formation of iron carbide in direct hydrogenation of CO_2 to light hydrocarbons

Y. Yu, **D.S.A. Simakov** (Canada)

16:50 CO2-SOL-18

Structure sensitivity of methanol synthesis from CO_2 on Cu/ZrO_2 catalysts

R. Pallacán, T. Vergara, M.F. Guevara, R. Jiménez, A. Karelovic (Chile)

17:00 CO2-SOL-19

CO_2 hydrogenation to methanol on an ordered mesoporous InCu/Al2O_3 catalysts: effect of indium promoter

F. Zafar, M. Ali, J.W. Bae (South Korea)

17:10 CO2-SOL-20

Utilization of CO_2 and H_2 for Arene Methyl-, Ethyl-, and Propylation

J. Zuo, Y. Yuan (China)

17:20 CO2-SOL-21

Catalytic conversion of amine carbamates into organic urea derivatives by CeO_2 catalyst in corresponding amine solvents

M. Yabushita, J. Peng, Y. Li, R. Fujii, M. Tamura, Y. Nakagawa, K. Tomishige (Japan)

17:30 CO2-SOL-22

Leaching in specific facets of ZIF-67 and ZIF-L zeolitic imidazolate frameworks during the CO_2 Cycloaddition with Epichlorohydrin

J.J. Delgado-Marín[1], A. Rendón-Patiño[2], V.K. Velisoju[2], G.S. Kumar[2], N.Zambrano[2], M.Rueping[2], J. Gascón[2], P. Castaño[2], J. Narciso[1], E.V. Ramos-Fernández[1], ([1]Spain, [2]Saudi Arabia)

17:40 CO2-SOL-23

Biogas methanation in an industrial-scale plate-type methanation reactor: interplay of reactor and catalyst optimization

E. Moioli (Switzerland)

17:50 CO2-SOL-24

Lewis acid zeolites activate dihydrogen in N-formylation reaction

J. Přech, M. Hulla (Czechia)

Friday, September 1 Congress hall

9:00 – 10:40 Awards

Chairpersons: B. Weckhuysen (Netherlands), Hlide J. Venvik (Norway)

9:00 2023-KL1-award

How artificial intelligence and knowledge graphs will change development workflows in catalysis

S. A. Schunk (Germany)

9:40 2023-KL2-award

On the structural sensitivity of platinum electrocatalysts

F. Calle-Vallejo (Spain)

10:20 2023-Thesis Award

Pressure and temperature dependence of metallic zinc and partially reduced zinc oxide formation in copper-zinc-alumina catalysts – Limits of X-ray spectroscopy

A. Beck, M. Zabilskiy, M. A. Newton, O. Safonova, M. G. Willinger, J. A. van Bokhoven (Switzerland)

Friday, September 1 — South hall 2AB

9:00 – 10:40 Catalyst design, novel catalytic materials 16

Chairpersons: H. Yamashita (Japan), G. Vilé (Italy)

9:00 DES-OL-35

Tuning the Au nanocluster catalyst activity in the selective alkyne semihydrogenation reaction: ligand and support effect

N. Barrabés[1], R. Banu[1], J. Mengual[2], E. Palomares[2], F. Rey[2] ([1]Austria,[2]Spain)

9:20 DES-OL-36

MAX phase as an efficient heterogeneous catalyst for nitrostyrene chemoselective hydrogenation

I. M. Chirica[1], M. M. Trandafir[1], F. Neatu[1], S. Neatu[1], A. Kuncser[1], V. Natu[2], M. W. Barsoum[2], M. Florea[1] ([1]Romania, [2]USA)

9:40 DES-OL-37

Ethanol dehydration over hybrid aluminosilicate catalysts prepared by non-hydrolytic sol-gel: One-pot synthesis vs. Surface grafting

L. Leonova[1], Z. Moravec[1], P. Sazama[1], J. Pastvova[1], D. P. Debecker[2], **A. Styskalik**[1] ([1]*Czechia,* [2]*Belgium*)

10:00 DES-OL-38

Rh single-atom sites on oxygen-defective SnO2 for a selective gas-phase ethylene hydroformylation

M. G. Farpón[1], W. Henao[1], P. N. Plessow[2], E. Andrés[1], R. Arenal[1], C. Marini[1], G. Agostini[1], F. Studt[2], **G. Prieto**[1] ([1]Spain, [2]Germany)

10:20 DES-OL-39

Ga-Ni supported catalytically active liquid metal solutions (SCALMS) for selective alkene oligomerization

A. Søgaard, A. Schmuker, A. de Oliveira, N. Taccardi, M. Haumann, P. Wasserscheid (Germany)

10:40 – 11:10 Coffee break

Friday, September 1 — Panorama hall, 1st floor

9:00 – 10:40 Biomass to chemicals and fuels 10

Chairpersons: G. Pirngruber (France), T. Salmi (Finland)

9:00 BIO-OL-31

Continuous transfer hydrogenolysis of THFA to 1,5-pentanediol over stable Ni-La(OH)3: Towards selective synthesis of bio-based α,ω-diols

M. Al-Yusufi[1], D. Michalik[1,2], N. Steinfeldt[1], M. Sebek[1], H. Atia[1], R. Eckelt[1], C. Kubis[1], T. Ishida[2], T. Murayama[2], A. AbdelMageed[1], A. Köckritz[1] ([1]Germany, [2]Japan)

9:20 BIO-OL-32

A comprehensive investigation on the co-feeding of furfural and levulinic acid for 2-methyltetrahydrofuran production using alumina-supported bimetallic catalysts

R. Q. Raguindin, Y. B. Kim, J. G. Seo (South Korea)

9:40 BIO-OL-33

Rhenium-catalyzed production of adipates from aldaric acids

M. Grilc, F. M. Harth, B. Hočevar, B. Likozar (Slovenia)

10:00 BIO-OL-34

Catalytic hydrodeoxygenation of phenolic compounds and lignin pyrolysis bio-oils towards drop-in aviation fuels

A. Margellou[1], F. Zormpa[1], S. Torofias[1], A. Correa de Araujo[2], A. Funke[2], K. Triantafyllidis[1] ([1]Greece, [2]Germany)

10:20 BIO-OL-35

Heterogeneous catalytic oxidation of furfural with hydrogen peroxide over a niobium catalyst

W.Y. Perez-Sena, K. Eränen, A. Aho, T. Salmi, J. Wärnå, D. Murzin (Finland)

10:40 – 11:10 Coffee break

Friday, September 1 South hall 3BC, 3rd floor

9:00 – 10:40 Catalyst characterization incl. operando methods: experiment and theory 5

Chairpersons: E. Tabor (Czechia), P. Pietrzyk (Poland)

9:00 CHAR-OL-15

Monitoring the structural evolution of multicomponent catalysts for selective olefin oxidation by complementary operando techniques

L. Klag, T. L. Sheppard, J.-D. Grunwaldt (Germany)

9:20 CHAR-OL-16

Critical role of water in preferential carbon monoxide oxidation over Pt-Fe catalysts: Operando XAS/DRIFTS approach

I. I. Sadykov[1], F. Krumeich[1], D. Palagin[2], D. Ferri[1], I. V. Plokhikh[1], J. A. van Bokhoven[1], M. Nachtegaal[1], **O. V. Safonova**[1] ([1]Switzerland, [2]Netherlands)

9:40 CHAR-OL-17

Tracking catalyst structures from synthesis to reaction via pair distribution function on a Ag@H-BEA zeolite

F. Müller, N. Simitsis, R. Palkovits, M. Zobel (Germany)

10:00 CHAR-OL-18

Effect of H^2 pressure on the carbon path of methanation reaction on Co/γ-Al_2O_3: Transient isotopic and operando methodologies

M.A. Vasiliades, R. Crous, D. Moodley, T. Botha and **A.M. Efstathiou** (Cyprus)

10:20 CHAR-OL-19

Photocatalytic set-up for in situ and operando ambient pressure X-ray photoelectron spectroscopy at the MAX IV laboratory

A. Klyushin[1], M. Ghosalya[2], EsE.ko Kokkonen[1], C. Eads[1], R. Jones[1], N. Nalajala[3], C. S. Gopinath[3], S. Urpelainen ([1]Sweden, [2]Finland, [3]India)

10:40 – 11:10 Coffee break

9:00 – 10:40 Photo-driven processes for fuel and organic synthesis 2

Chairpersons: R. Moca (United Kingdom), K. Amakawa (Germany)

9:00 PHDP-OL-03

Visible light activation of halogen bonds enabled autocatalytic intramolecular C(sp^2) - C(sp^2) coupling of aryl sulfonamides

J. Kaur[1], M. Mandigma[1,2], J. Barham[1] ([1]Germany, [2]UK)

9:20 PHDP-OL-04

Photocatalytic oxygen transfer as an innovative route for N_2O upgrading

O. Delaunay, A. Denicourt-Nowicki, A. Roucoux (France)

9:40 PHDP-OL-05

Photocatalysis for artificial photosynthesis aiming at carbon neutral

A. Kudo (Japan)

10:00 PHDP-SOL-05

Modulating the nanostructure of carbon nitride for improved Continuous-Flow Trifluoromethylation of (Hetero)Arenes

A. Sivo, V. Ruta, M. A. Bajada, G. Vilé (Italy)

10:10 PHDP-SOL-06

Silica-supported gold nanoparticles for plasmonic catalysis in continuous flow

A. Engel, F. Drault, S. Demoustier-Champagne, S. Hermans (Belgium)

10:20 PHDP-SOL-07

Surface molecularization of plasmonic systems for photo-redox catalysis

R. Bericat-Vadell[1], P.Senkar[1], X. Zou[1], J. Sá[1,2] ([1]Sweden, [2]Poland)

10:30 PHDP-SOL-08

Hydrogenation of styrene via plasmon-induced photodissociation of hydrogen molecule over Au/ZrO_2

T. Okamoto, E. Fudo, A. Tanaka, H. Kominami (Japan)

10:40 – 11:10 Coffee break

11:10 – 12:10 Plenary lecture

Chairpersons: Eva-Maria Hauck-Grasselli (Germany), Z. Sojka (Poland)

11:10 PL 07

Molecular understanding of multifunctional electrocatalysts for water and hydrogen oxidation

X. Hu (Switzerland)

12:10 – 12:30 Closing ceremony

Chairpersons: M. Witko (Poland), D. Kubička (Czechia)

12:10 Invitation to next EuropaCat

12:20 2023 F. Gault lectureship awardees

LIST OF POSTERS

Monday, August 28 — Congress hall foyer 2nd & 3rd floor

18:00 – 20:00 — Poster session 1

CO_2 valorization

CO2-P-002

Fabrication of Cu-Zn coated structured foam catalysts for CO_2 hydrogenation to methanol in a fixed-bed reactor

A. Bhardwaj, R. Sahu, K. Kishore Pant, S. Upadhyayula (India)

CO2-P-003

Demonstration of a continuous flow CO_2 hydrogenation to formate over a solid micellar catalyst

C. Mendes[1], F. Guo[1], S. Santos[1], Q. Wang[2], B. Sowa[1], V. Ordomsky[2], A. Khodakov[2], **M.Saeys[1]** ([1]Belgium, [2]France)

CO2-P-004

Low temperature activity of tetragonal type ZrO_2 supported Ru catalyst for CO_2 methanation

K. Sato, H. Higuchi, K. Nagaoka (Japan)

CO2-P-005

Effect of metal loading on perovskite-type oxide catalysts for reverse water gas shift reaction

S. Sekizawa, W. Doi, T. Furukawa, A. Yanagita, K. Tashiro, S. Satokawa (Japan)

CO2-P-006

Synthesis of carbamates from CO_2-captured amines and alcohols over CeO_2 catalyst

S. Mihara, M. Yabushita, Y. Nakagawa, K. Tomishige, M. Shogen (Japan)

CO2-P-007

Realistic conditions for Sabatier reaction: a promising alternative for cement industry decarbonization

D. Spataru, A. Quindimil, C. Bacariza, J. Lopes, C. Henriques (Portugal)

CO2-P-008

Investigation on the effect of nickel and silica loading of Ni/SiO_2-Al_2O_3 catalysts for CO_2 hydrogenation

E. Spennati[1], P. Riani[1], V.S. Escribano[2], M.V. Garcia[2], G. Busca[1], G. Garbarino[1] ([1]Italy, [2]Spain)

CO2-P-009

On the potential of dual-function FeCo catalysts for CO_2 utilization via inductive heating

S. Spyroglou, C. Rameshan, M. Sanchez-Sanchez (Austria)

CO2-P-010

Cobalt carbide catalyst development for CO_2 methanation: synthesis and characterization

S. Suman, A. Banerjee, L. Lefferts (Netherlands)

CO2-P-011

Dry reforming of methane over Cr-Ni loaded on dealuminated Beta zeolite

K. Tamura, S. Kokuryo, K. Miyake, Y. Uchida, N. Nishiyama (Japan)

CO2-P-012

Layered double hydroxides based catalytic systems for photoelectrochemical CO_2 conversion into solar fuels and chemicals

E. Tosi Brandi, E. Orfei, A. Fasolini, N. Sangiorgi, A. Sangiorgi, A. Sanson, F. Basile (Italy)

CO2-P-013

Influence of pre-treatment on the support effect in catalytic methanol synthesis

J. A. Boysen, A. D. Jensen, J. M. Christensen (Denmark)

CO2-P-014

Development of multi-elemental reverse water-gas shift catalysts using extrapolative machine learning approach

D. Chen, G. Wang, S. Mine, I. Takigawa, K. Matsushita, K. Shimizu, **T. Toyao** (Japan)

CO2-P-015

Plasma-catalytic CO_2 hydrogenation over a Pd/ZnO catalyst: Insights into gas-phase and surface reactions

Y. Sun[1], Y. Wang[2], D. Ye[1], **X. Tu[2]** ([1]China, [2]United Kingdom)

CO2-P-016

CO_2 adsorption on the modified mesoporous silicas

O. Tumurbaatar, M. Popova, V. Mitova, P. Shestakova, N. Koseva (Bulgaria)

CO2-P-017

Kinetic and mechanistic study of CO_2 conversion into methanol over Cu/TiO_2 and Cu/SiO_2 catalysts promoted by CeO_2

T. Vergara[1], D. Gómez[1], B. Lacerda de Oliveira Campos[2], K. Herrera-Delgado[2], P. Concepción[3], R. Jiménez[1], A. Karelovic[1] ([1]Chile, [2]Germany, [3]Spain)

CO2-P-018

Supported metal oxide materials for plasma-catalytic dry reforming of methane

V. Vermile, S. Bossier, B. Seynnaeve, J. Lauwaert, A. Verberckmoes, V. Meynen (Belgium)

CO2-P-020

Alternative production path of reverse water-gas shift catalysts via solution combustion synthesis

N. Virkki[1], C. Alvarez[2], P. Simell[1], J. Kihlman[1] ([1]Finland, [2]Spain)

CO2-P-021

Non-thermal plasma catalytic CO_2 hydrogenation to methanol at atomospheric pressure

S. Xu[1], A. M. Beale[1], R. Simancas[2], M. E. Potter[1], S. Mediavilla Madrigal[1], T. Wakihara[2], X. Fan[1], C. Hardacre[1] ([1]United Kingdom, [2]Japan)

CO2-P-022

Analysis of photocatalytic CO_2 reduction by machine learning

D. Saadetnejad, B. Oral, E. Can, **R. Yıldırım** (Turkey)

CO2-P-023

Analysis of catalytic CO_2 methanation by machine learning

B. Yılmaz, B. Oral, R. Yıldırım (Turkey)

CO2-P-024

Template-free synthesis of mesoporous amine-bridged organosilicas for CO_2 valorization into cyclic carbonates

T. Bui, Z. Moravec, P. Machac, A. Styskalik (Czechia)

CO2-P-025

Direct air capture and conversion of carbon dioxide into cyclic carbonate

M. Zanatta, E. García-Verdugo, V. Sans (Spain)

CO2-P-026

Modified Red-Mud based hydrid catalyst for CO_2 hydrogenation to paraffines, olefins and aromatics

A. C Ummer, G. A. Nasser, S. A. Ali (Saudi Arabia)

CO2-P-027

Hydrogenation of carbon dioxide to olefins over Co modified Fe-H-ZSM-5 catalyst

M. Cele, P. Maseko, M. Mdleleni (South Africa)

CO2-P-028

Ni-based oxides for dry reforming of methane: Investigation of catalytic activity and regeneration capacity

L. Consentino, V. La Parola, G. Pantaleo, E. La Greca, M. Gruttadauria, L. F. Liotta (Italy)

CO2-P-029

Thermochemical catalysis for carbon dioxide splitting

S. Costa, A. Glisenti (Italy)

CO2-P-030

CO_2 valorization on metal based mesoporous silica

M. Dan, O. Grad, A. Kazsa, M. Mihet, M.D. Lazar (Romania)

CO2-P-031

Effects of zeolite acidity on catalytic performance and coking behavior for CO_2 to light olefins using bifunctional composite catalysts

W. Di, A. Achour, P. H. Ho, O. Pajalic, L. Josefsson, L. Olsson, D. Creaser (Sweden)

CO2-P-032

Advancement of design of $Ni/Ce_{0.8}Ti_{0.2}O_{2-\delta}$ for the dry reforming of methane using transient and isotopic techniques

C. M. Damaskinos, **M.A. Vasiliades**, A. M. Efstathiou (Cyprus)

CO2-P-033

Experimental and theoretical approach on understanding the Ni-supported Pr-doped CeO_2/Al_2O_3 catalysts for CO_2 methanation

A. Alkhoori[1], A. Dabbawala[1], M. Harfouche[2], O. Elmutasim[1], M. Vasiliades[3], N. Charisiou[4], D. Anjum[1], M. Baker[5], M. Goula[4], A. Efstathiou[3], K. Polychronopoulou[1] ([1]United Arab Emirates, [2]Jordan, [3]Cyprus, [4]Greece, [5]United Kingdom)

CO2-P-034

Incorporation of an alkaline-alkaline earth metal in an unsupported bimetallic Ni-containing catalyst for the CO_2–SR technology

S. E. Mérida, S. Molina-Ramírez, M. Cortés-Reyes, C. Herrera, M.A. Larrubia, L.J. Alemany (Spain)

CO2-P-035

Dynamic interaction of CO_2 with a Ru/g-Al_2O_3 Catalyst – A Temporal Analysis of Products (TAP) study

C. Fauth, A. Lenzer, A. M. Abdel-Mageed, R. Jürgen Behm (Germany)

CO2-P-036

Influence of the catalyst activation temperature on the ethanol production in the CO_2 hydrogenation over Cu-UiO-67

L. do N. R. de Paula, **J. F. Gomes**, J. Mansur Assaf (Brazil)

CO2-P-037

Propylene production via oxidative dehydrogenation of propane with carbon dioxide over composite metal oxides

A. Florou, G. Bampos, P. Panagiotopoulou (Greece)

CO2-P-038

Carbon nanobeads as active components for the production of methanol via CO_2 hydrogenation

G. Bonura, S. Todaro, C. Cannilla, A. Cajumi, J.F. Pérez Robles, F. Arena, **F. Frusteri** (Italy)

CO2-P-039

Continuous flow synthesis of 2-imidazolidinone from ethylenediamine carbamate over the CeO_2 catalyst

R. Fujii, M. Yabushita, D. Asada, M. Tamura, Y. Nakagawa, A. Takahashi, A. Nakayama, K. Tomishige (Japan)

CO2-P-040

Iron promoted alumina supported nickel catalysts for hydrogenation of carbon dioxide

W. Gac[1], W. Zawadzki[1], G. Słowik[1], M. Kuśmierz[1], Z. Surowiec[1], K. Kappis[2] ([1]Poland, [2]Greece)

CO2-P-041

Development of a tailored multiphase system for the Ru-catalyzed Synthesis of Cyclic acetals

N. Gaelings, J. Klankermayer (Germany)

CO2-P-042

Inverse CeO_x/CoO_y catalysts for CO_2 methanation

Y. Gao, N. Kosinov, E. Hensen (Netherlands)

CO2-P-043

Isothermal stepwise CO_2 capture-methanation using a dual functional material: effect of the temperature and type of alkaline metal

E. García-Bordejé, A. Belén Dongil, J. Moral, J. M. Conesa, A. Guerrero-Ruiz, I. Rodríguez-Ramos (Spain)

CO2-P-044

Catalyst design of CO_2 hydrogenation and Off-gas upgrading

K. An (South Korea)

CO2-P-045

Modeling and simulation of a non-isothermal fixed-bed reactor for CO_2 methanation and validation with experimental data

E. Gómez Bravo, J.A. González-Marcos, J.R. González-Velasco, B. Pereda-Ayo (Spain)

CO2-P-046

Boosting the catalyst stability and activity of Ni/MgO-Al_2O_3 with different complexing agents for dry reforming of methane

S. Gonzalez, H. Atia, N. Rockstroh, H. Lund, S. Bartling, S. Wohlrab, U. Armbruster (Germany)

CO2-P-047

Effect of nickel nanoparticle size over silica based catalysts for methanation reaction

M. Gregoire, C. Ciotonea, S. Royer, S. Gupta, E. Abi-Aad, C. Poupin (France)

CO2-P-048

Recyclable hybrid catalytic systems for the synthesis of cyclic carbonates

V. Campisciano[1], A. Morena[1,2], L. Valentino[1], A. Comès[2], L. Fusaro[2], A. Santiago-Portillo[2], L.F. Liotta[1], F. Giacalone[1], C. Aprile[2], **M. Gruttadauria[1]** ([1]Italy, [2]Belgium)

CO2-P-049

Biogas upgrading through enhanced CO_2 methanation in fluidized bed

I. de Matías, P. Durán, V. D. Mercader, E. Francés, **J. Herguido**, J. A. Peña (Spain)

CO2-P-050

Catalyst supports based on ceria-praseodymia as oxygen carriers for applications in methane reforming reactions.

L. Herráez Santos, A. García-García (Spain)

CO2-P-051

UiO-66 supported Cu catalysts for CO_2 hydrogenation to methanol

Z. Hu, N. F. Dummer, K. J. Aggett, N. Lawes, I. E. Gow, L. R. Smith, J. S. Hayward, T. E. Davies, D. J. Morgan, M. Bowker, S. H. Taylor, G. J. Huthchings (United Kingdom)

CO2-P-052

Investigating the influence of ionic liquids on the visible-light induced photoelectrochemical reduction of CO_2

B. Hulaj, D. Apaydin, K. Bica-Schröder (Austria)

CO2-P-053

Ni composite catalysts on CeLaCuO/SBA-15 support towards dry reforming of methane (DRM)

A. G. S. Hussien[1], A. A. Dabbawala[1], D. H. Anjum[1], N. D. Charisiou[2], M. Goula[2], K. Polychronopoulou[1] ([1]United Arab Emirates, [2]Greece)

CO2-P-054

Ni-Co bimetallic catalysts for dry reforming of methane: experimental and theoretical approach

A. G. S. Hussien[1], A. A. Dabbawala[1], D. H. Anjum[1], N. D. Charisiou[2], B. M. Krishna[1], M. Gacesa[1], M. Goula[2], K. Polychronopoulou[1] ([1]United Arab Emirates, [2]Greece)

CO2-P-055

How can we protect $Cu/ZnO/Al_2O_3$ catalysts for oxidation?

L. Azancot, L. Lefferts (Netherlands)

CO2-P-056

Stability promotion of Ni foam catalysts for dry reforming of methane

A. Choya, B. de Rivas, J.I. Gutiérrez-Ortiz, R. López-Fonseca (Spain)

CO2-P-057

Direct alcohol synthesis over cu-zeolite catalysts

D. Iltsiou, J. Mielby, S. Kegnæs (Denmark)

CO2-P-058

Tuning the size of Ni nanoparticles to study structure sensitivity in CO_2 hydrogenation

B. Kappé, M. Sen, W. van der Stam, E. Groeneveld, M. Monai, B. Weckhuysen (Netherlands)

CO2-P-059

The variation of the Zn content on Cu/SiO_2 generates different active sites for the CO_2 hydrogenation to methanol

D. Gómez[1], T. Vergara[1], P. Concepción[2], R. Jiménez[1], A. Karelovic[1] ([1]Chile, [2]Spain)

CO2-P-060

Mixed metal oxide and zeolite catalysts for carbon dioxide conversion to olefins: A small pore zeolite exploration

A. Sajid, J. Devos, C. Aelbers, I. Khalil, M. Dusselier (Belgium)

CO2-P-061

MOF-derived Fe-Co bimetal catalysts for CO_2 hydrogenation to hydrocarbons

B. G. Kim, J. W. Bae (South Korea)

CO2-P-062

Effect of carbonate content on the rheological properties of poly(propylene carbonate) polyols

H. Kim, J. Hwang, S. M. Jung, H.-J. Lee, J. D. Park, J. H. Baik (South Korea)

CO2-P-063

Assessing the influence of high pressure on the electrochemical reduction of CO_2 using atomic-scale spacing over SnO_x nanoparticles

J. Kim, S. Ahmed, M. Kashif Khan (South Korea)

CO2-P-064

Effect of La_2O_3 and CeO_2 promotion on CO_2 conversion to methane using mesoporous ZSM-5, US-Y and BEA supported Ni-catalysts

A. Kızıl, B. Ipek (Turkey)

CO2-P-065

One step CO_2-to-dimethyl ether conversion over Bi-functional 3D-printed ZSM-5-based catalysts

V. Koidi, S. Koltsakidis, E. Tzimtzimis, D. Tzetzis, A.A. Lappas, E. Heracleous (Greece)

CO2-P-066

Promoted Ni/Zeolite catalysts for thermal and DBD plasma-assisted CO_2 methanation: On the role of the promoter nature

G. Hasrack[1,2], **C. Bacariza[2]**, C. Henriques[2], P. Da Costa[1] ([1]France, [2]Portugal)

CO2-P-067

Supported catalysts for the reverse water-gas shift reaction

E. Kowalewski, M. Kock, S. Viðarsson, J. Mielby, S. Kegnæs (Denmark)

CO2-P-068

Fe-Zr catalysts for direct synthesis of light olefins via CO_2 hydrogenation

E. Kraleva, U. Armbruster, S. Wohlrab (Germany)

CO2-P-070

Catalytic conversion of CO_2 to DMC using CeO_2-based catalysts: Optimization study and artificial neural network modelling

P. Kumar[1], R. Kaur[1], S. Verma[2], U.L. Štangar[1] ([1]Slovenia, [2]India)

CO2-P-071

Epoxidation of CO_2-based light olefins as a key step to fossil-free polycarbonate polyols

K. Kuutti, M. Alvear, F. Orabona, T. Salmi, S. Rautiainen, J. Lehtonen (Finland)

CO2-P-072

Direct CO_2 hydrogenation to long-chain hydrocarbons via methanol

F. Lappa, M. Dusselier, G. Leonard (Belgium)

CO2-P-073

Ni/CeO_2-ZrO_2 catalysts for dry methane reforming – optimization of nickel loading and support composition

P. Legutko, W. Pierożak, I. Poniewierska, S. Kuler-Rachwał, M. Kozieł, M. Marzec, M. Michalik, A. Adamski (Poland)

CO2-P-074

CO_2 reduction to methanol at a Cu/Zn–ZrO_2 Interface via DFT calculations

A. Lempelto, L. Gell, T. Kiljunen, K. Honkala (Finland)

CO2-P-075

CO_x hydrogenation to methanol on supported Cu NPs: role of electron withdrawing character of Lewis acid sites at metal/oxide periphery

I. López-Luque[1], J. Kim[2], G. Prieto[1,2] ([1]Spain, [2]Germany)

CO2-P-076

Photo-thermal methane dry reforming reaction catalyzed by Ni/CeO_{2-x} nanorods

K. Lorber, I. Arčon, P. Djinović (Slovenia)

CO2-P-077

Efficient use of oxygen atoms in photocatalytic CO_2 reduction

P. Bai[1], Y. Zhao[1], Y. Li[2] ([1]China, [2]Finland)

CO2-P-078

Mn-Ni dual-atom sites for efficient electroreduction of CO_2 to CO

S. Lu, F. L. Lou, Z. X. Yu (Norway)

CO2-P-079

Zeolitic Imidazolate Frameworks as co-catalysts for CO_2 gas-phase photo-reduction

C. Marchal, M. Anagnostopoulou, K.C. Christoforidis, V. Keller (France)

CO2-P-080

CO_2 reduction to syngas over Mo_2C-based catalysts

W. Marquart, M. Claeys, N. Fischer (South Africa)

CO2-P-081

Perovskite-based catalysts for CO_2 photoreduction reaction

I. Martin, G. Forghieri, E. Ghedini, I. Rossetti, M. Signoretto (Italy)

CO2-P-082

Fe catalysts supported on N-doped graphite and K as a promoter for CO_2 hydrogenation to light olefins

L. Martínez-Quintana[1], E. Castillejos-López[1], J. Rabeah[2], A. B. Dongil[1] ([1]Spain, [2]Germany)

CO2-P-083

CO_2 valorisation with earth-abundant metals using visible-light

S. Realista, R. T. Marques, N. A. G. Bandeira, R. G. Santos, P. N. Martinho (Portugal)

CO2-P-084

FSP-made Ru/SiO_2 and Ru/Ti-SiO_2 catalysts for CO_2 methanation reaction

O. Mekasuwandumrong, P. Jornsamer, K. Khuon, N. Suksawang, S. Praserthdam, P. Praserthdam (Thailand)

CO2-P-085

Highly active, selective, and stable $CuZnAlO_x$ catalyst for methanol synthesis via CO_2 hydrogenation under industrially relevant conditions

H. Mena, N. Ortner, D. Zhao, U. Armbruster, S. Wohlrab, E. Kondratenko (Germany)

CO2-P-086

CO_2 capture and utilisation by using switchable dual function materials

L.-P. Merkouri[1], T. Ramirez-Reina[1,2], M. S. Duyar[1] ([1]United Kingdom, [2]Spain)

CO2-P-087

Nickel embedded silica catalyst for highly stable performance of dry reforming of methane (DRM)

H. Min, Y. J. Kim, S. B. Kang (South Korea)

CO2-P-088

Investigating the effect of nickel loading on Ni/CeO_2-nanorods for plasma-catalytic CO_2 methanation

J. Barauna, B. Musig, T. Garcia, M.V. Navarro (Spain)

CO2-P-089

Design and development of a thermo-photo catalytic system to boost the activation of small molecules by plasmonic effect

G. Miroddi, M. Boaro, A. Trovarelli (Italy)

CO2-P-091

Modified ferrites for the magnetically heated CO_2 reduction

J. Moral-Pombo[1], S. Ghosh[2], B. Chaudret[2], A. Belén Dongil[1], E. García-Bordejé[1], I. Rodríguez-Ramos[1] ([1]Spain, [2]France)

CO2-P-092

Synergy of single-atom Ni and Ru on CeO_2 catalysts for plasma-assisted CO_2 methanation

B. Musig[1,2], J. Barauna[1], T. Garcia[1], M. E. Galvez[2], M. V. Navarro[1] ([1]Spain, [2]France)

CO2-P-093

Low-temperature hydrogenation of CO_2 to methanol over supported gold catalysts

T. Nakagawa, H. Miura, T. Shishido (Japan)

CO2-P-094

Elucidating CO_2 methanation mechanism over novel 10% $LaNiO_3$/CeO_2-derived catalyst by in-situ FTIR and NAP-XPS

J. A. Onrubia-Calvo, S. López-Rodríguez, I. J. Villar-García, V. Pérez-Dieste, A. Bueno-López, J. R. González-Velasco (Spain)

CO2-P-095

Enhancement the CO_2 adsorption and hydrogenation to CH_4 capacity of Ru Na-Ca/gamma-Al_2O_3 dual function material by controlling the structure under different calcination atmosphere

A. Bermejo-López, B. Pereda-Ayo., **J. A. Onrubia-Calvo**, J. A. González Marcos, J. R. González Velasco (Spain)

CO2-P-096

CO_2 hydrogenation to renewable methane on Ni/Ru modified ZSM-5 zeolites

M. Oykova[1], M. Popova[1], M. Dimitrov[1], D. Karashanova[1], D. Kovacheva[1], G. Atanasova[1], Á. Szegedi[2] ([1]Bulgaria, [2]Hungary)

CO2-P-097

ZrO_2 effect in the activity of Cu/CeO_2 catalysts for the reverse water gas shift reaction

M. Palma Cazorla, N. Barrabés, M. Sanchez-Sanchez (Austria)

CO2-P-098

Hydrogen production from chemical looping reforming of methane: A screening of Ni based oxygen carriers

L. Consentino[1], F. Deganello[1], R.Guil-Lopez[2], **G. Pantaleo[1]**, L. F. Liotta[1], R.M. Navarro[2], V. La Parola[1] ([1]Italy, [2]Spain)

CO2-P-099

Particle size effect for CO_2 hydrogenation by In_2O_3-ZrO_2 catalysts

B. F. Baumgarten, R. Lødeng, E. A. Blekkan, J. Yang (Norway)

CO2-P-100

Electrified CO_2 reforming of methane and reverse-water gas shift driven by Joule heating

L. Zheng, M. Ambrosetti, F. Nicolini, A. Beretta, G. Groppi, E. Tronconi, M. Panzeri (Italy)

CO2-P-101

Kinetic modeling of CO_2 hydrogenation via fischer-tropsch synthesis using K/Fe-Cu-Al catalysts

Y. Jung, Y. Woo, H.-G. Park, K.-W. Jun, J.-R. Kim, M.-J. Park (South Korea)

CO2-P-102

Membrane reactor: A case study of methanol production

A. Pavlišič, A. Prašnikar, B. Likozar (Slovenia)

CO2-P-103

Bimetallic MOF-derived catalysts for photo-thermal CO_2 hydrogenation

F. Almazán, M. Lafuente, A. Echarte, M. Imizcoz, **I. Pellejero**, L.M. Gandía (Spain)

CO2-P-104

Promising electrocatalysts based on surface modified Zeolite Templated Carbons for CO_2 valorization

D. Chillè, P. Squillaci, **G. Papanikolaou**, E. Catizzone, M. Migliori, G. Giordano, G. Centi, S. Perathoner, P. Lanzafame (Italy)

CO2-P-105

CO_2 driven light alkanes oxidative dehydrogenation over nickel and iron heterogeneous catalysts

M. Percivale, E. Spennati, P. Riani, R. Millini, G. Garbarino (Italy)

CO2-P-106

Synergetic activity of Ag and Zn in CO_2 hydrogenation to methanol

S. Phadke, C. Copéret, O. V. Safonova (Switzerland)

CO2-P-107

A synergistic interplay between Ag and Re supported on TiO_2 promotes methanol selectivity in low temperature CO_2 hydrogenation

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CO2-P-108

Exceptionally high productivity of ZrO_2 supported Au catalysts in CO_2 hydrogenation to methanol

T. V. Sagar, J. Zavašnik, M. Finšgar, N. Novak Tušar, **A. Pintar** (Slovenia)

CO2-P-109

CO_2 methanation catalysts derived from Ni-alkaline earth metal carbonates

S. Gupta, M. Gregoire, S. Royer, E. Abi-Aad, **C. Poupin** (France)

CO2-P-110

Optimizing Cu_xO-doped TiO_2 materials for CO_2 photoreduction in a thin film flow reactor

J. Chávez-Caiza, J. Fernández-Catalá, M. Navlani-García, **Á. Berenguer-Murcia**, D. Cazorla-Amorós (Spain)

CO2-P-111

Effect of substrate conductivity on charge transfer and CO_2 photoreduction to methane in water vapor over silica-modified TiO_2 films

P. Praserthdam[1], M. Fereidooni[1], O. Núñez[1], V. Márquez[1], C.V. Paz[1], M. Salazar Villanueva[2], M. Z. Tun[1], P. Kanjanaboos[1], S. Praserthdam[1] ([1]Thailand, [2]Mexico)

CO2-P-112

Atomic layer deposited zinc over metal oxide supported copper for carbon dioxide hydrogenation to methanol: Comparison of supports

A. Sajid, A. Arandia, J. Yim, A. Chahal, H. Jiang, R. Karinen, **R. Puurunen** (Finland)

CO2-P-113

Carbon dioxide activation via oxidative dehydrogenation and dry reforming of ethane over Fe_3Ni_1 nanoalloys influenced by supports

S. Raseale[1], G. Prieto[2], M. Claeys[1], Nico Fischer[1] ([1]South Africa, [2]Spain)

CO2-P-114

Carbon dioxide reduction via the reverse Water Gas Shift reaction over iron-nickel nanoalloy-based catalysts

S. Raseale, K. De Kock, M. Claeys, N. Fischer (South Africa)

CO2-P-115

Selective production of isobutene – Isosynthesis over zirconia

N. Heikkinen, L. Keskiväli, R. Ikonen, B. A. Baraiya, V. Korpelin, T. Kiljunen, K. Honkala, **M. Reinikainen** (Finland)

CO2-P-116

Upgrading of solvent-free acetone-butanol mixtures to aviation fuels over heterogeneous metal catalysts

K. J. Betsy, P. Doménech, A. Riisager (Denmark)

CO2-P-117

Metal-free N-doped carbons catalysts for solvent-less CO_2 fixation reactions: A shrimp shell valorization opportunity

D. Polidoro[1], A. Perosa[1], E. Rodríguez-Castellón[2], P. Canton[1], L. Castoldi[1], **D. Rodríguez-Padrón[1]**, M. Selva[1] ([1]Italy, [2]Spain)

CO2-P-118

Effect of promoters (Cs or Ba) on the Ni/HSAG catalyzed RWGS reaction

J. Moral-Pombo, A. Belén Dongil, E. García-Bordejé, A. Guerrero-Ruiz, **I. Rodríguez-Ramos** (Spain)

CO2-P-119

Promotion of CO_2 hydrogenation to CH_4 by MgO on Ru/ZrO_2 - multimodal spectroscopy investigation

L. Santa-Taborda[1], S. Cisneros[2], L. Quintana[3], H. Abed[2], A. Ahmed[2], A. Brückner[2], A.B. Dongil[3], J. Rabeah[2], **M. Romero-Sáez[1]** ([1]Colombia, [2]Germany, [3]Spain)

CO2-P-120

Evaluation of Ga and Zn-based catalysts supported on SiO_2 for the CO_2-assisted ethane dehydrogenation

H. R. Bortolini, Martin Schmal, R. M. B. Alves, E. M. Assaf (Brazil)

Catalyst design, novel catalytic materials

DES-P-001

Biomass-derived carbon supported Cu electrocatalysts for the CO_2-electroreduction

F. De Luca[1], T. Miah[2], P. Demoro[1], I. Nduka[2], R. Arrigo[2], S. Perathoner[1], G. Centi[1], **S. Abate[1]** ([1]Italy, [2]UK)

DES-P-002

Effect of support on methanol selectivity in low-temperature CO_2 hydrogenation to methanol over iridium-based catalysts

A. Alrefaei, A. Bansode, A. Urakawa (Netherlands)

DES-P-003

Renewable glycol production from glucose using novel Ni/WO_x LDH based catalysts

S. Kaul, M. Rose (Germany)

DES-P-004

Selective catalysis using metal nanoparticles confined in porous materials

D. Iltsiou, M. K. Larsen, J. Mielby, **S. Kegnæs** (Denmark)

DES-P-006

Superior hydrogenation activity of delafossite-type $CuAlO_2$ catalyst

S. Kikkawa, C. Nagata, K. Nitta, S. Yamazoe (Japan)

DES-P-007

Development of Si-doped Ru/$CeLaO_x$ catalyst for the demonstration of ammonia synthesis

M. Kikugawa, Y. Goto, K. Yamazaki, Y. Manaka, T. Nanba, H. Matsumoto, S. Ookawara, A. Sato, M. Aoki, N. Baba (Japan)

DES-P-008

Hydrogenation of aromatic LOHC compound over Ru/CeO_2 catalysts with dual functions of heterolytic H_2 adsorption and H_2 spillover

D. Kim, T. W. Kim, Y.-W. Suh (South Korea)

DES-P-009

Impact of the designed noble-transition bimetallic nanoparticles on dry reforming of methane

H. Kim, H. Park, J.-I. Park, W. S. Chi, Y. Jeon (South Korea)

DES-P-010

Biodiesel production using Heteropoly acid and Metal-organic framework Heterogeneous Acid catalyst

H. Kim, H. Park, J.-I. Park, W. S. Chi, Y. Jeon (South Korea)

DES-P-011

Highly selective and stable Zn promoted precipitated Iron catalysts for the production of linear alpha olefin via Fischer-Tropsch synthesis

K. Y. Kim, G. W. Lee, G. B. Rhim, M. H. Youn, D. H. Chun (South Korea)

DES-P-013

The catalytic performance of Pd-M/TUD-1 catalysts (where M= Fe, Co, Cu and Ni) in cyclohexene hydrogenation

M. M. Alshahrani, M. S. Hamdy (Saudi Arabia)

DES-P-014

Effect of alkyl chain length on the structures of dendritic silica supported palladium catalysts for hydrogenation of furfural

Y. E. Kim, P. Kim, G. Kim, M. S. Lee (South Korea)

DES-P-015

Ba-Si oxynitride-hydride as a transition metal-free catalyst for ammonia synthesis

M. Kitano, Z. Zhang, M. Miyazaki, H. Hosono (Japan)

DES-P-016

Plasma-supported catalytic synthesis of light hydrocarbons

J. Titus, T. Lorenz, M. Drößiger, O. Kuschel, **C. Koch** (Germany)

DES-P-017

Metal organic frameworks derived tunable supported nickel catalysts for methane dry reforming

E. P. Komarala[1], A. A. Dabbawala[1], M. Harfouche[2], N. Charisiou[3], D. H. Anjum[1], M. A. Baker[4], M. Goula[3] and K. Polychronopoulou[1] ([1]United Arab Emirates, [2]Jordan, [3]Greece, [4]UK)

DES-P-018

Metal nanoparticles on 3D graphene-like nitrogen-doped zeolite-templated carbon for hydrogenation reactions

N. Kostkova, J. Moravkova, R. Pilar, G. Sadovska, A. Vondrova, I. Jirka, P. Sazama (Czechia)

DES-P-019

Engineering exsolved catalysts for CO_2 utilization

S. A. Ali[1], M. Safi[1], L.-P. Merkouri[1], S. Soodi[1], A. Iakovidis[1], M. S. Duyar[1], D. Neagu[1], T. Ramirez Reina[2], **K. Kousi**[1] ([1]United Kingdom, [2]Spain)

DES-P-020

Pt-, Ru- modified H-Beta, H-Y zeolites and H-MCM-41 mesoporous material extrudate catalysts for synthesis of menthol from citronellal: Influence of structures, acid sites Pt- and Ru- metal nanoparticles size distributions

N. Kumar, Z. Vajglova, P. Mäki-Arvela, K. Eränen, M. Peurla, D. Yu. Murzin (Finland)

DES-P-021

CuFe@zeolite catalysts selectively hydrogenate C≡C triple to C=C double bond

A. Kurbanova, J. Přech, S. Kurucová, M. Mazur, D. Zákutná (Czechia)

DES-P-022

Catalytic combustion of volatile organic compounds over transition metal oxides deposited on zeolite-decorated ceramic monoliths

A. Rokicińska, M. Drozdek, M. Żurowska, E. Bogdan, A. Węgrzynowicz, P. Michorczyk, **P. Kuśtrowski** (Poland)

DES-P-023

Fe-modified $SrTiO_3$ and Mn-modified $SrTiO_3$ as materials for environmental catalysis

A. Łącz, P. Gwóźdź, N. Moskała, S. Komarek, E. Drożdż (Poland)

DES-P-024

The cluster model for ZN catalysis: Understanding catalyst activation and deactivation pathways

G. Antinucci, F. D. Cannavacciuolo, C. Ehm, R. Cipullo, V. Busico (Italy)

DES-P-025

Hydrosilylation/deoxygenation catalysis with "Activated borane" – a porous borane cluster polymer with Lewis acid centers

M. Lamač, B. Urbán, M. Horáček, K. Škoch, J. Demel (Czechia)

DES-P-026

Designing innovation catalyst for the synthesis of plasticizers based on hybrid material deep eutectic solvent and metal oxide

P. Latos, J. Gabzdyl, A. Chrobok (Poland)

DES-P-027

Influence of spatial distribution between CeO_2 and bimetallic nanoparticles for CO_2-Assisted pentane oxidative dehydrogenation

G. Lee [1,2], M. Numan [1], E. Eom [1], J. W. Shin [1], M. Mazur [2], D.-H. Choi [1], C. Jo [1] ([1]South Korea, [2]Czechia)

DES-P-028

Computational design of robust catalyst beds for single-atom OER catalysts

S. Ram[1], **S.-C. Lee**[1,2], S. Bhattacharjee[1] ([1]India, [2]South Korea)

DES-P-029

Packed bed of 3D printed catalysts for CO_2 methanation

J. Lefevere, B. Michielsen (Belgium)

DES-P-030

Partial hydrogenation of biofuel from Waste Cooking Oil by Steel Slags based catalyst

M. S. Leone, P. Mastrorilli, M. M. Dell'Anna (Italy)

DES-P-031

Pinning of transition metal nanoparticles onto silanol-rich 2D zeolitic materials

A. Li, D. N. Rainer, M. Kubů, J. Čejka, M. Mazur (Czechia)

DES-P-032

Descriptors for hydrodeoxygenation reaction over Mo_2C catalyst

R. Meena, H. Bitter, H. Zuilhof, **G. Li** (Netherlands)

DES-P-033

Influence of active-site proximity in zeolites on Brønsted-acid catalyzed reactions at the microscopic and mesoscopic levels

T. Li, S.-H. Chung, S. Nastase, A. Galilea, Y. Wang, I. Mukhambetov, M. Zaarour, J. C. N. de Miguel, J. Cazemier, A. Dokania, L. Panarone, J. Gascon, L. Cavallo, J. Ruiz-Martínez (Saudi Arabia)

DES-P-034

Cluster-sized alloys on zeolite for robust ethylene removal at 0 °C

M. Lin[1], H. Wang[2], T. Ishida[2], G. Xiu[1], T. Murayama[2] ([1]China, [2]Japan)

DES-P-035

Structural and morphology studies of nanocomposites ZnO-$ZnAl_2O_4$ obtained by hydrothermal carbonization and thermal treatment

K. Antoniak-Jurak, A. Mrozek, R. Bicki, P. Kowalik (Poland)

DES-P-036

Multiple doping of perovskite oxide catalysts – Unravelling the complex exsolution behavior

L. Lindenthal[1], H. Drexler[1], J. Rollenitz[1], F. Schrenk[1], T. Rocha[2], T. Mori[2], L. Borges[2], C. Rameshan[1] ([1]Austria, [2]Brazil)

DES-P-037

Influence of the starting biomass in the Pd-biochar catalyst properties

L. Longo, M. Signoretto, F. Menegazzo, A. Di Michele (Italy)

DES-P-038

Pd-Fe catalysts boosting effect for the selective oxidation of benzyl alcohol through in situ H_2O_2 production

A. Lopez-Martin, R. J. Lewis, G. J. Hutchings (United Kingdom)

DES-P-039

High performance tunable catalysts prepared by 3D printing

C. Chaparro-Garnica[1], E. Bailón-García[1], A. Davó-Quiñonero[1], P. Da Costa[2], A. Bueno-López[1], **D. Lozano-Castelló**[1] ([1]Spain, [2]France)

DES-P-040

Atomic Cu-N-P-C active complex with integrated oxidation and chlorination for improved ethylene oxychlorination

H. Ma, W. Zhang, D. Chen (Norway)

DES-P-041

Progress on the implementation of more sustainable hydroformylation by Supported Liquid Phase (SLP) catalysis

M. Madani[1], L. Schill[1], N. Zahrtmann[1], R. Portela[2], L. Arsenjuk[3], R. Franke[3], R. Fehrmann[1], A. Riisager[1] ([1]Denmark, [2]Spain, [3]Germany)

DES-P-042

Rational solvent selection for the preparation of industrial monolithic Supported Liquid Phase (SLP) olefin hydroformylation catalyst

M. Madani[1], L. Schill[1], L. Arsenjuk[2], R. Franke[2], R. Fehrmann[1], A. Riisager[1] ([1]Denmark, [2]Germany)

DES-P-043

Supported catalytic active liquid metal solution catalysts on hierarchical SiO_2 supra particles in propane dehydrogenation – effects of support pore size and surface roughness

N. Madubuko, D. Lehmann, U. Sultan, N. Taccardi, M. Haumann, N. Vogel, P. Wasserscheid (Germany)

DES-P-044

MXene mediated layered 2D-3D-2D g-C_3N_4@WO_3@Ti_3C_2 multijunctional heterostructure with enhanced photoelectrochemical and photocatalytic properties

L. C. Makola, S. Moeno , C. N. M. Ouma , L. N. Dlamini (South Africa)

DES-P-045

Structural flexibility of the Mn-Ti-based perovskites and activity for the CO oxidation reaction

R. Mane, H.-S. Kim, K. Han, H. Kim, Y. Jeon (South Korea)

DES-P-046

The impact of manganese incorporation on the activity of cobalt spinel catalysts in oxygen evolution reactions

S. Arnold, A. Rabe, M. Behrens (Germany)

DES-P-047

Stability of gold-functionalized catalysts in glucose oxidation

A. Ciemięga, **K. Maresz**, M. Romaszewski, P. Głomb, P. Krupska-Wolas, K. Prusik (Poland)

DES-P-048

Selective hydrogenation and hydrodeoxygenation using bimetallic Fe_xPt_{100-x} nanoparticles immobilized on supported ionic liquid phases

N. Marchenko[1], S.Tricard[1], A. Bordet[2], W. Leitner[2] ([1]France, [2]Germany)

DES-P-049

Improved synthesis of nano Chevrel Phases for alkaline HER

A. M. L. Frisina, A. F. Masters, **T. Maschmeyer** (Australia)

DES-P-050

Immobilization of Ni complexes in hydrophobic materials for ethylene oligomerization

M. Lions, J. Canivet, A. Tuel, D. Farrusseng (France)

DES-P-051

Dealumination of USY for stabilization of subnanometric reducible metal oxide nanoparticles

A. Li[1], Y. Zhang[1], M. Numan[2], J. Čejka[1], C. Jo[2], **M. Mazur**[1] ([1]Czechia, [2]South Korea)

DES-P-052

Development and up-scaling of iron-based catalysts for sustainable Fischer-Tropsch synthesis of higher alcohols

M. Medicus, J. Mettke, E. Reichelt, M. Jahn (Germany)

DES-P-053

An improved preparation method for a CuO/CeO_2-coated monolith for the CO-PrOx reaction

J. Meißner, L. Ahrens, J. Pasel, A. Schwedt, S. Wohlrab, J. Mayer, R. Peters (Germany)

DES-P-054

Towards a Machine Learning Model for Zeolite Synthesis

D. P. Costa, L. Frazão, M. F. Ribeiro, **P. S. F. Mendes** (Portugal)

DES-P-055

MOF(Al)-derived catalysts with enhanced activity in CO_2 methanation

M. Mihet, A. M. Kasza, O. Grad, A. Turza, M. Dan, M. D. Lazar (Romania)

DES-P-056

Multicomponent monolithic catalysts prepared in 3D printing assistance for oxidative coupling of methane

P. Michorczyk, E. Bogdan, M. Nowakowska, M. Myradova, A. Rokicińska, P. Kuśtrowski (Poland)

DES-P-057

Enhanced CO oxidation activity on Perovskite derived needle-like $MnO_x/LaMnO_3$ catalysts

A. Toso[1], A. Felli[1], S. Colussi[1], M. Boaro[1], J. Llorca[2], **C. Artner-Wallner**[3], B. Truscott[3], A. Trovarelli[1] ([1]Italy, [2]Spain, [3]Austria)

DES-P-058

Interface engineering of amorphous/crystalline catalysts employing metallic glasses and ceria for catalytic CO Oxidation

M. Shahim, L. Soler, E. Pineda (Spain)

DES-P-059

Strong Solid Base site of N^{3-} beside vacancies in hexagonal-$BaTiO_{3-x}N_y$

M. Miyazaki, H. Saito, K. Ogasawara, M. Kitano, H. Hosono (Japan)

DES-P-060

Aluminum atoms organization in MFI ruled by synthesis procedure

V. Pashkova, P. Klein, M. Urbanova, J. Brus, L. Kobera, J. Dedecek, **K. Mlekodaj** (Czechia)

DES-P-061

Syngas production by CO_2 reforming of methane on Ni/$LaAlO_3$ perovskite based catalysts with improved textural properties

H. J. Muñoz, S. A. Korili, A. Gil (Spain)

DES-P-062

Size dependence of niobium oxide clusters for base catalysis

H. Nagakari, S. Kikkawa, N. Nakatani, S. Yamazoe (Japan)

DES-P-063

Surface dynamics for generation of metal active sites for ammonia synthesis under mild conditions

K. Nagaoka, K. Sato, Shin-ichiro Miyahara, K. Inazu (Japan)

DES-P-064

Stability of supported catalytically active liquid metal solutions (SCALMS) catalysts in high temperature reactions

S. Nair, N. Taccardi, M. Haumann, P. Wasserscheid (Germany)

DES-P-065

Study on the catalytic active species for partial oxidation of CH_4 over Fe-containing zeolite

K. Nakamura, P. Xiao, J. N. Kondo, T. Yokoi (Japonsko)

DES-P-066

Development of supported gold cluster catalysts utilizing Layered Double Hydroxide (LDH) nanoparticles

A. Nakayama, A. Yoshida, T. Honma, N. Sakaguchi, A. Taketoshi, T. Fujita, T. Murayama, T. Shimada, S. Takagi, T. Ishida (Japan)

DES-P-067

Reduction of nitroarenes to anilines in water solution catalyzed by Cu/SteelSlags new material

D. Nefedova, M. Mali, G. Romanazzi, P. Mastrorilli, M. M. Dell'Anna (Italy)

DES-P-068

Study of the effect of the La/Ce ratio of fluorite catalysts in the oxidative coupling of methane

Y. L. de Lima[1], G. L. Catuzo[1], D. D. Petrolini[2], **E. M. Assaf**[1] ([1]Brazil, [2]USA)

DES-P-069

Palladium phosphide catalysts for the Wacker-Tsuji-Oxidation of alkenes

A. Neyyathala, F. Flecken, JProf. S. Hanf (Germany)

DES-P-070

Photo-induced active lewis acid-base pairs in metal-organic framework for H_2 activation

B. K. Y. Ng[1], X.-P. Wu[2], S. C. E. Tsang[1] ([1]United Kingdom, [2]China)

DES-P-071

Bridging the gap between molecular and solid catalysts: Nanoporous phosphine-based Macroligands for the Activation of CO_2

A. Nisters, M. Rose (Germany)

DES-P-072

Characterisation and application of the DLP-printed ceramic monoliths for the oxidative coupling of methane process

M. Nowakowska, A. Rokicińska, P. Kuśtrowski, P. Michorczyk (Poland)

DES-P-073

The process-structure correlation of VOx/MgO catalysts prepared by solution combustion synthesis for n-octane conversion

P. Ntola, H.B. Friedrich, A.S. Mohamed, E.J. Olivier, A. Govender, S. Singh (South Africa)

DES-P-074

CO_2 hydrogenation performance of highly dispersed Pt and Ru catalysts supported on surface-modified CeO_2 nanostructures

A. Molina[1], **R. Nuez**[1], S. Khannyra[1], D. Goma[1], M. P. Yeste[1], G. Blanco[1], S. Collins[2], D. Motta[3], M. A. Cauqui[1], J. J. Calvino ([1]Spain, [2]Argentina, [3]USA)

DES-P-075

Precious-metal-free catalysts based on apatite-type lanthanum silicate for toluene combustion

N. Nunotani, K. Matsuo, N. Imanaka (Japan)

DES-P-076

Development of new catalytic system driven by vibration energy

Y. Oba, T. Uno, S. Kikkawa, S. Yamazoe (Japan)

DES-P-077

Towards the understanding of structure-function relationships in dry methane reforming using semi-model catalytic systems

J. E. Olszowka[1], S. Kadam[1], J. Jasik[1], M. Vaidulych[1], K. Simkovicova[1], S. Valtera[1], M. Zlamalova[1], L. Kavan[1], M. Mergl[1], M. Jindra[1], I. Jirka[1], M. Kalbac[1], H. Tarabkova[1], J. Moravkova[1], P. Sazama[1], Y. Lei[3], A. Kleibert[2], S. Vajda[1] ([1]Czechia, [2]Switzerland, [3]USA)

DES-P-078

Ge outperforms other zeolite sites in sucrose-to-HMF conversion

M. Opanasenko, P. Rani, M. Shamzhy (Czechia)

DES-P-079

Concomitant oxidative and reductive transformations from N-Heterocyclic carbene organocatalysis

N. Assani, L. Delfau, E. Tomas-Mendivil, S. Redon, P. Vanelle, D. Martin, J. Broggi (France)

DES-P-080

Heterogenization of iron schiff base complex for catalysis

T. Gao[1], Z. Yan[2], M. Trentesaux[1], M. Marinova[1], **V. Ordomsky**[1], S. Paul ([1]France, [2]China)

DES-P-081

Novel aerosol-made CuO-CeO_2 catalysts with superior CO oxidation activity

G. Pampararo[1], E. Sartoretti[2], S. Bensaid[2], D. P. Debecker[1] ([1]Belgium, [2]Italy)

DES-P-082

Promotion of palladium nanoparticles by amine-modified ionic liquid polymers towards CO_2 hydrogenation to formate

R. Paterson, T. W. Chamberlain, E. Arca, J. G. Knight, S. Doherty (United Kingdom)

DES-P-083

Co-Ru/SiC as catalyst for ammonia decomposition reaction

M. Pinzon, A. Romero, A. de Lucas-Consuegra, A. R. de la Osa, P. Sánchez (Spain)

DES-P-084

Enhancing the activity of IrO_x catalysts for OER in PEM electrolysers

S. Pitscheider[1], C. M. Pedersen[1], E. Bertheussen[1], S. R. Cooper[1], A. Maletzko[2], E. D. G. Villa[2], J. Melke[2], N. Seselj[1], A. Bornet[3], G. Wiberg[3], M. Arenz[3], C. Kallesøe[1] ([1]Denmark, [2]Germany, [3]Switzerland)

DES-P-085

Vanadium: an efficient promoter for Ni based catalyst for Methane Dry reforming

M. Pizzolato, G. Da Pian, A. Di Michele, G. Cruciani, F. Menegazzo, M. Signoretto (Italy)

DES-P-086

MgO-induced structure sensitivity in Cu-Based catalyst synthesized via a novel precursor route for CO_2 to methanol conversion

M. Pokhriyal, A. Bhardwaj, S. Upadhyayula (India)

DES-P-087

Preparation of supported bimetallic RuCo catalysts

Ž. Ponikvar, A. Sedminek, J. Teržan, B. Likozar, D. Makovec, S. Gyergyek (Slovenia)

DES-P-088

Speeding up synthesis of nanolayered zeolites synthesis by interzeolite transformation

P. Pornsetmetakul[1,2], C. Wattanakit[2], E. J.M. Hensen[1] ([1]Netherlands, [2]Thailand)

DES-P-089

Thermal synthesis of graphitic carbon nitride in argon atmosphere for photocatalytic hydrogen evolution

P. Praus, L. Řeháčková, J. Čížek, A. Smýkalová, M. Koštejn, J. Pavlovský, M. F. Edelmannová, K. Kočí (Czechia)

DES-P-090

Simultaneous oxidative and reductive transformations by parallel catalysis with N-Heterocyclic Carbenes

N. Assani, L. Delfau, E. Tomas-Mendivil, S. Redon, P. Vanelle, D. Martin, J. Broggi (France)

DES-P-091

Cation-induced Speciation of Port-Size in MOR Zeolite Synthesis

S. Prodinger[1], O. R. Bygdnes[1], I. C. Berdiell[1], T. Cordero-Lanzac[1], B. G. Solemsli[1], K. Kvande[1], P. Beato[2], U. Olsbye[1], S. Svelle[1] ([1]Norway, [2]Denmark)

DES-P-092

A review on electron-hole pairs mechanism in dark photocatalysis

J. C. P. Putra, T. S. Vehus, H. K. Nielsen (Norway)

DES-P-093

Kinetic investigation of NH3 decomposition over Ru-based catalysts

Y. Qiu, F. Franchi, N. Usberti, M. Ambrosetti, G. Groppi, E. Tronconi, A. Beretta (Italy)

DES-P-094

Fabrication of Pd-supported 3D printing activated carbon monoliths for hydrogen production

G. Vega, I. Díaz-Herrezuelo, M. Navarro, **A. Quintanilla**, M. Belmonte, J. A. Casas (Spain)

DES-P-095

Carbon nanotube-supported bimetallic catalysts with high activity for the reduction of NOx

P. S. F. Ramalho, O. S. G. P. Soares, J. L. Figueiredo, M. F. R. Pereira (Portugal)

DES-P-096

Ru@C microspheres for photo-thermal catalysis applications

A. Rendón-Patiño[1], D. Mateo[1], E. V. Ramos-Fernandez[2], J. Gascon[1] ([1]Saudi Arabia, [2]Spain)

DES-P-097

Atomically dispersed platinum supported in FeO_x/SiO_2 for the selective non-oxidative dehydrogenation of isobutane

A. Rodriguez-Gomez[1,2], S. Ould-Chikh [1], W. Henao[2], G. Agostini [3], G. Prieto[2], J. Gascon[1] ([1]Saudi Arabia, [2]Spain)

DES-P-098

Development of stable ceria-supported noble metal catalysts with sulfur resistance for waste-to-hydrogen

H.-S. Roh, K.-J. Kim, S.-J. Ryu (South Korea)

DES-P-099

Co_3O_4@SiO_2 yolk-shell catalysts for total oxidation of toluene

A. Rokicińska, M. Żurowska, B. Olszański, M. Dębosz, P. Kuśtrowski (Poland)

DES-P-100

Reactivity and stability of spinel oxides for the aqueous catalytic oxidation of alcohols in batch conditions

F. Romanelli[1,2], A. Tampieri[1], T. Lederer[1], M. Pittenauer[1], K. Föttinger[1] ([1]Austria, [2]Italy)

DES-P-101

Carbon vs. conventional supported catalysts for CO_2 utilization

S. E. Atakoohi, E. Spennati, P. Riani, G. Garbarino (Italy)

DES-P-102

Zeolite-templated carbon metal-supported catalysts for heterogeneous reactions

P. Sazama[1], V. I. Parvulescu[2], J. Moravkova[1], R. Pilar[1], **G. Sadovska**[1], A. Vondrova[1], D. Kaucky[1], N. Kostkova[1], I. Jirka[1], S. F. Rastegar[1] ([1]Czechia, [2]Romania)

DES-P-103

Dry reforming of methane for the syngas production catalyzed by Ni-doped perovskites

M. Safdar[1,2], N. Shezad[3], B. Dorneanu[1], M. Jafari[1], S. S. Bhat[1], F. Akhtar[3], H. Arellano-García[1] ([1]Germany, [2]Pakistan, [3]Sweden)

DES-P-104

Lanthanide-based iron perovskites for catalytic rWGS

S. Saini, A. M. Martin, D. Neagu, W. Hu, I. S. Metcalfe, K. Kousi (United Kingdom)

DES-P-105

Ti,W,O,N, photo-oxidation catalysts: From synthesis to VOC degradation

S. Salli, K. Maliutina, E. Richards (United Kingdom)

DES-P-106

Kinetic Study of seed-assisted crystallization of CON-type zeolite

M. Sawada, H. Onozuka, S. Tsutsuminal, J. N. Kondo, T. Yokoi (Japan)

DES-P-107

Structured catalysts for electrified magnetic catalysis

A. Sedminek[1], D. Makovec[1], A. Kocjan[1], J. Teržan[1], B. Likozar[1], V. Middelkoop[2], F. Sotoodeh[3], S. Gyergyek[1]
([1]Slovenia, [2]Belgium, [3]Netherlands)

DES-P-108

P-modified Pd catalysts for hydrogenation of aromatic compounds for chemical hydrogen storage

A. Seitz, I. Backes, P. Schühle (Germany)

DES-P-109

Effect of the B cation in a perovskite as precursor for the catalytic m-cresol hydrodeoxygenation reaction.

T. Fonseca, C. Herrera, **C. Sepúlveda**, G. Pecchi (Chile)

DES-P-110

Au-TiO_2 catalysts for plasmon-driven photocatalytic wastewater treatment: Synthesis and characterization

E. Serra-Pérez, G. Žerjav, S. Kovačič, N. N. Tušar, A. Pintar (Slovenia)

DES-P-111

Rationally designed bifunctional catalyst with metal incorporated core-shell silicalite-1 architecture

U. Sharma, M. Kumar (India)

DES-P-112

Gas-phase Pd and PdZn clusters deposited on ZnO and SiO_2 as model catalyst for CO_2 hydrogenation to methanol

I. Abbas[1], S. Phadke[2], J. Coroa[1,3], J. Yin[3], O. Safonova[2], C. Coperet[2], D. Grandjean[1], E. Janssens[1] ([1]Belgium, [2]Switzerland, [3]UK)

DES-P-113

Non-oxidative propane dehydrogenation using precious metal-free chloride-treated metal oxides

G. Celik, A. Bouziani (Turkey)

DES-P-114

Iron-based catalyst for production of hydrogen and CNTs through the catalytic decomposition of methane

S. Shekhar[1], K.K. Pant[1], S. Roy[1], R. Joshi[2] ([1]India, [2]Australia)

DES-P-115

The Effect of vanadium substitution into cobalt oxide catalysts for selective 2-Propanol oxidation

H. Scheele, N. Cosanne, S. Najafishirtari, M. Behrens (Germany)

DES-P-116

Ceria-supported mono- and bimetallic noble metal nanoparticles with narrow size distribution as model catalysts in emission control reactions

C. Schmitt, J. Czechowsky, N. Da Roit, M. Casapu, S. Behrens (Germany)

DES-P-117

Tandem Mixed-Metal Oxides/Zeolite catalysts for CO_2 utilization

C. Schroeder, M. Palma, N. Barrabés, M. Sánchez-Sánchez (Austria)

DES-P-118

Influence of oxidative fluorination on Cu/ZnO methanol catalysts for carbon dioxide hydrogenation

H. Schuster, I. Krossing (Germany)

DES-P-119

Development of hydroisomerization catalyst for diesel fuel with improved cold flow properties

H. Schwarzová[1], L. Meca[1], J. Jenčík[1] , J. Hájek[1], N. Heikkinen[2], M. Reinikainen[2] ([1]Czechia, [2]Finland)

DES-P-120

Propane combustion over alumina-supported copper nanoparticles

K. Simkovičová, M. I. Qadir, N. Žilková, L. Kvítek and Š. Vajda (Czechia)

DES-P-121

Characteristics and reactivity of chelating N and O-donor Ru and Cu complexes in the oxidation of n-octane

N.K. Singh, L. Soobramoney, M.L. Shozi, H.B. Friedrich (South Africa)

DES-P-122

Integration of Zeolite@Metal–Organic framework: A composite catalyst for isopropyl alcohol conversion to aromatics

O. Singh, N. K. Gupta, B. Sarkar (India)

DES-P-123

Light-driven coupling of acids and halides over a Ni single-atom catalyst

M. Bajada, G. Di Liberto, S. Tosoni, V. Ruta, L.Mino, N. Allasia, **A. Sivo**, G. Pacchioni, G. Vilé (Italy)

DES-P-124

Preparation of Ni-Co-Mn mixed oxide coatings on stainless-steel supports by sol-gel method and their activity in oxidation of volatile organic compounds

T. Babii, K. Jirátová, J. Balabánová, F. Kovanda (Czechia)

DES-P-125

Oxidation of o-phenylenediamine by reactive oxygen species generated during H_2O_2 decomposition over composite oxide materials

K. Sobańska, T. Smoliński, L. Wolski, P. Pietrzyk (Poland)

DES-P-126

Defined precursors for atomically dispersed heterobimetallic catalysts

R. J. Somerville, J.-C. Schmidt, P. J. Dyson (Switzerland)

DES-P-127

Hydrogen purification for selective removal of oxygen: Deoxo catalysts

Y. Song, S. Kim (South Korea)

DES-P-128

Molecularly Defined Precursors for Pt Nanoparticle Controlled Growth and Speciation Targeting CO_2 Conversion

L. Sousa, R. Guerra, G. Strapasson, C. Oliveira, D. Zanchet (Brazil)

DES-P-129

Chemo-enzymatic C-H Bond Activation via in-situ H_2O_2 Production

A. Stenner, R. J. Lewis, G. J. Hutchings (United Kingdom)

DES-P-130

Dimethyl ether as hydrogen carrier: Development of catalysts for DME steam reforming

R. Stöber, F. Seidl, P. Schühle (Germany)

DES-P-131

Transition metal-promoted LDH-derived CoCeMgAlO mixed oxides, active catalysts for methane complete oxidation

M. C. Stoian[1], C. Romanitan[1], C. Negrila[1], H. Atia[2], K. Neubauer[2], I. Popescu[1], I.-C. Marcu[1] ([1]Romania, [2]Germany)

DES-P-132

Acidity modulation impact over metal-support interactions of Pt-supported catalysts

G. B. Strapasson, L. S. Sousa, G. B. Báfero, D. S. Leite, C. B. Rodella, D. Zanchet (Brazil)

DES-P-133

Synergistic catalysis between Fe single atoms and Fe_3O_4 nanoparticles to generate reactive oxygen species for the oxidative trifluoromethylation of olefins

T. Su, Ch. Cai (China)

DES-P-134

Water-Soluble NHC-stabilized PdNi nanoparticles for H/D exchange in aromatic amino-acids

O. Suárez-Riaño[1], G. Mencia[1], S. Tricard[1], B. Chaudret[1], E.A. Baquero[2] ([1]France, [2]Colombia)

DES-P-135

Assessing the catalytic capabilities of Ge-Imogolite nanotubes

L. Bailey, T. Davies, A. Graham, S.Taylor (United Kingdom)

DES-P-136

Pt/CeO_2, Pt/TiO_2 and Pt/TiO_2-CeO_2 catalysts prepared by using titanyl sulphate in oxidation of dichloromethane

A. Šlachtová[1], I. Troppová[1], S. Pitkäaho[2], L. Matějová[1] ([1]Czechia, [2]Finland)

DES-P-137

Effect of Cu/Ce ratio on benzene oxidation over gold-promoted Alumina-supported CuO-CeO_2

T. Tabakova, P. Petrova, Y. Karakirova, G. Avdeev, E. Kolentsova, L. Ilieva (Bulgaria)

DES-P-138

Liquid-phase catalytic oxidation of alcohols over spinel oxides

A. Tampieri, F. Romanelli, T. Lederer, M. Pittenauer, K. Föttinger (Austria)

DES-P-140

Strategy to enhance metallic dispersion via regulation of metal-support interactions on the example of Ni/Al_2O_3 catalyst

E. E. Taş, B. S. Çağlayan, A. E. Aksoylu (Turkey)

DES-P-141

Diastereoselective synthesis of novel phosphine-phosphoramidite ligands and their performance in asymmetric catalysis

S. Teeuwen, G. Franciò, W. Leitner (Germany)

DES-P-142

High-pressure pulse experiments and co-feeding of ethylene: Insight into the active sites of a prussian blue analogue-derived Mn-Co catalyst in the CO hydrogenation to higher alcohols

P. Telaar, P. Schwiderowski, P. Diehl, M. Muhler (Germany)

DES-P-143

Investigating the activity and stability of Pt/Si-doped TiO_2 for total propane oxidation

M. Tigwell, M. Douthwaite, L. Bailey, L. R. Smith, N. F. Dummer, D. J. Morgan, S. H. Taylor, G. J. Hutchings (United Kingdom)

DES-P-144

Garnet-Type Materials as Multifunctional Catalysts in Challenging Applications of CCU

J. Titus, C. Fritsch, T. Roussière, C. Lizandara-Pueyo, R. Müller, R. Gläser, S. A. Schunk (Germany)

DES-P-145

Platinum nanoparticles supported on polybenzimidazole nanofiber mats: application to VOC oxidation

P. Topka, K. Soukup, J. Kupčík, J. Balabánová, M. Koštejn, O. Šolcová (Czechia)

DES-P-146

3D-printed carbon catalysts for oxalic acid ozonation

J. R. M. Barbosa, M. J. Regufe, J. Restivo, C. A. Orge, A. F. P. Ferreira, M. F. R. Pereira, A. M. Ribeiro, O. S. G. P. Soares (Portugal)

DES-P-147

Porous Tin-organic frameworks as a selective epimerization catalyst for the synthesis of rare monosaccharides

V. Toussaint, T. Röper, L. Pavlis , I. Delidovich (Austria)

DES-P-148

Electric field-enhanced low-temperature ammonia decomposition over $RuCeO_2$ nanoclusters

M. L. T. Triviño[1], Cheol Ung Lee[1], Y. Sekine[2], J. G. Seo[1] ([1]South Korea, [2]Japan)

DES-P-149

Self-catalyzed hydrophobing by VOC exposure of mixed-metal oxide catalyst for CO oxidation in humid conditions

N. Unglaube, J. Grothe, S. Kaskel (Germany)

DES-P-150

Alternative approach to Zeolite/Carbon composites synthesis with enhanced CO_2 adsorption properties

F. Valentini[1], P. Tawachkultanadilok[2], J. Wittayakun[2], K. Föttinger[1] ([1]Austria, [2]Thailand)

DES-P-151

Switching selectivity in the oxidative dehydrogenation of cyclohexene by atomic-precision control of catalyst composition

S. Valtera[1], J. Jašík[1], M. Vaidulych[1], J. E. Olszówka[1], M. Bunian[2], Y. Lei[2], A. Halder[2], H. Tarábková[1], M. Zlámalová[1], M. Jindra[1], L. Kavan[1], O. Frank[1], S. Bartling[3], Š. Vajda[1] ([1]Czechia, [2]USA, [3]Germany)

DES-P-152

Supported metal-catalyzed polymer modification via hydrogenation and hydrodechlorination reactions

V. Varela-Izquierdo, G. Mencía, B. Chaudret (France)

DES-P-153

Selective Glucose oxidation towards Gluconic acid using a highly defective Graphitic Carbon Nitride under mild conditions

Maria Ventura[1], Jaime Mazario[2], Marcelo E.Domine[1], Juan Antonio Melero[1] ([1]Spain, [2]France)

DES-P-154

MOF-derived Co/N doped carbons for the nitroarene hydrogenation reaction

D. V. Hernández, E.V. R. Fernández, J. Narciso (Spain)

DES-P-155

Pickering interfacial catalysis on the particles-stabilized foams

M. Pera-Titus[1], K. Wang[1], S. Zhang[2], D. Dedovets[2] ([1]United Kingdom, [2]France)

DES-P-156

The confinement effect of CeO_2 nanotubes loaded Pd in CO_2 hydrogenation to methanol reaction

F. Gao, **N. Wang**, B. Chen (China)

DES-P-157

High temperature H_2 purification and water splitting performances of Pt deposited over dense asymmetric ceramic membranes

P. Gramazio, A. Fasolini, A. Bartoletti, A. Gondolini, E. Mercadelli, A. Sanson, **F. Basile** (Italy)

DES-P-158

Waste to wealth: fluid catalytic cracking catalyst synthesized from solid-waste coal gangue minerals

R. Wang, Y. Song, X. Yang, W. Lin (China)

DES-P-159

Solvent-free crystallization of ZSM-5 zeolite on SiC foam as a monolith catalyst for biofuel upgrading

Y. Wang, Q.an Zhu, L. Wang, Z. Yu,F.-s. Xiao (China)

DES-P-160

Bimetallic platinum rhenium catalysts for efficient low temperature dehydrogenation of perhydro benzyltoluene

D. Strauch[1], B. B. Sarma[1], D. Doronkin[1], A. Zimina[1], E. J. Olivier[2], J.-D. Grunwaldt[1], P. Wasserscheid[1], **M. Wolf[1]** ([1]Germany, [2]South Africa)

DES-P-161

Kinetic analysis to describe Co-operative redox enhancement effects exhibited by bimetallic Au– Pd systems in aerobic oxidation

Oliver T. Wright[1], Isaac T. Daniel[1], Liang Zhao[1], Donald Bethell[1], Mark Douthwaite[1], Samuel Pattisson[1], Richard J. Lewis[1], Ouardia Akdim[1], David J. Morgan[1], Steven McIntosh[2], Graham J. Hutchings[1] ([1]United Kingdom, [2]USA)

DES-P-162

Gold(III)-crosslinked single-chain nanoparticles as sonogashira reaction recyclable homogeneous catalytic

H. Xiang, W. Yi (China)

DES-P-163

Controlling the chemoselectivity of 3-nitrostyrene hydrogenation by modification of the interface of Pt catalysts

L. Xiao, R. Cai, S. Haigh, M. Sankar (United Kingdom)

DES-P-164

Fabrication of Nanocatalysts using Flame Aerosol Synthesis Method

Y. Sheng[1], G. Liu[1], M. Wu[1], M. Kraft[1,2], **R. Xu[1]** ([1]Singapore, [2] UK)

DES-P-165

Cyano-bridged metal complexes containing lanthanoid ions as heterogeneous catalysts for organophosphate hydrolysis

Y. Yamada, Y. Seki, T. Nakazono, H. Tabe (Japan)

DES-P-166

A metal-free carbon catalyst for oxidative dehydrogenation of aryl cyclohexenes to produce biaryl compounds

M. Yang, Y. Li (Finland)

DES-P-167

An unusual red carbon nitride to boost the photoelectrochemical performance of wide bandgap photoanodes

Y. Yang, Y. Li[2], S. Li, J. Wang (China)

DES-P-168

Controlled molecular-weight polymerization of norbornenes containing bay-functional perylene diimides

H. S. Bazzi[1,2], S. K. Podiyanachari,[1] M.d Al-Hashimi[1] (Katar, USA)

DES-P-169

Kinetic and computational studies of CO oxidation and PROX on Cu/CeO_2 Nanospheres

N. Yigit, P. Tangpakonsab, A. Genest, A. Meral, G. Rupprechter (Austria)

DES-P-170

Atomic layer deposition for catalyst preparation: the zinc acetylacetonate reaction with mesoporous zirconia and alumina

J. Yim[1], E. Haimi,[1] K. Meinander[1], P. Brüner[2],T. Grehl[2], A. Lempelto[1], L. Gell[1], T. Viinikainen[1], K. Honkala[1], R. Karinen[1], M. Putkonen[1], R. L. Puurunen[1] ([1]Finland, [2]Germany)

DES-P-171

Tailoring ETL/ERI zeolite interfaces using renewable silica source for bio-ethylene production

K. Yomthong, N. Maineawklang, P. Iadrat, P. Pornsetmetakul, S. Ittisanronnachai, C. Wattanakit (Thailand)

DES-P-172

Synthesis of ordered carbonaceous frameworks with single-atomic metal species from octaethynyl metalloporphyrin

T. Yoshii, K. Chida, H. Nishihara, F. Tani (Japan)

DES-P-173

Selective hydrogenation of ethylene carbonates over C_{60}-buffered Cu/SiO_2 under mild conditions

Y. Mu, X. Liang, X. Liu, J. Zuo, J. Zheng, S.-y. Xie, **Y. Yuan** (China)

DES-P-174

Understanding the effect of polarity, Pt particle size, and confinement on the selective hydrogenation of nitrostyrene

M. Zaarour, J. Cazemier, F. Almukhtar, J.C. Navarro de Miguel, S. Komaty, J. Ruiz-Martinez (Saudi Arabia)

DES-P-175

Determination of the mechanism of poisoning the catalytic surface with chlorine originating from the support precursor

M. Zakrzewski, O. Shtyka, J. Rogowski, R. Ciesielski, A. Kedziora, T. Maniecki (Poland)

DES-P-177

Enhanced oxygen reduction reaction activity of BaCe0.2Fe0.8O3-δ cathode for proton-conducting solid oxide fuel cells via Pr-doping

X. Zhou[1], **J. Zhang**[1], Y. Zhao[1], Y. Li[2] ([1]China, [2]Finland)

DES-P-178

Boosting of metal-support interactions between Ru with sodium titanate nanowire on the hydrogenolysis of polyolefins under mild conditions

X. Zhang, G.-P. Lu (China)

DES-P-179

Palladium supported onto organo-functionalized halloysite nanotubes as catalyst for hydrogenation reactions

S. Bedoya, C. C Torrez, C. Herrera, C. H. Campos (Chile)

DES-P-180

Ru Nanoparticles Immobilized on Guanidinium-Based Supported Ionic Liquids Phases as Adaptive Hydrogenation Catalysts

Y. Zhang, L. Kang, S. DeBeer, A. Bordet, W. Leitner (Germany)

DES-P-181

Modification of zeolite confinement by extra-framework clusters promoting alkane cracking

R. Zhao, R. Khare, Y. Zhang, M. Sanchez-Sanchez, R. Bermejo-Deval, Y. Liu, J. A. Lercher (Germany)

DES-P-182

MOF-triggered synthesis of subnanometer Ag^0_2 clusters and Fe^{3+} single atoms: heterogenization led to efficient and synergetic one-pot catalytic reactions

Y. Zheng, C. Bilanin, J. Oliver-Meseguer, M. Mon, A. Leyva-Pérez (Spain)

DES-P-183

Different dimensions of carbon materials for supercapacitors

S. Zong[1,2], A. Chen[1], X. Liu[2] ([1]China, [2]South Africa)

DES-P-184

Recovery of gold from melted boraxes with simultaneous production of pure BF3 Catalyst, also suitable for doping Silicon for semiconductors and Graphene

T. Zucca (Italy)

DES-P-185

H_2 and carbon production through Fe-catalyzed methane decomposition

I. Giarnieri[1], E. Gioria[2], A. Bertuzzi[1,2], V. Foderà[1], A. Bobitan[3], N. Omori[3], G. Fornasari[1], S. D. M. Jacques[3], M. C. Righi[1], A. M. Beale[4], C. Damsgaard[2], **P. Benito**[1] ([1]Italy, [2]Denmark, [3]UK)

DES-P-186

Effect of the internal wettability of catalyst supports on gas-production reactions: study of H_2O_2 decomposition

F. D. Bernal Juan, A. Banerjee, L. Lefferts (Netherlands)

DES-P-187

Tuning the catalytic activity of supported non-noble metal nanoparticles in oxidation reactions of aliphatic alcohols

C.Bersani, A. Perosa, D. Rodríguez-Padrón, M. Selva (Italy)

DES-P-188

Design and development of CO methanation catalysts for a novel coal to SNG production technology

B. Acar, B. S. Çağlayan, A. E. Aksoylu (Turkey)

DES-P-189

Novel versatile covalent phenyl-BTBT-based triazine extended as metal-free heterogeneous photocatalyst

M. C. Borrallo-Aniceto, M. Pintado-Sierra, F. Sánchez, M. Iglesias (Spain)

DES-P-190

Ru nanocatalysts for sunlight-powered methanation of CO_2: distinguishing between photothermal and non-thermal contributions

D. Burova[1], J. Rohlfs[2], F. Sastre[2], M. Xu[2], P. M. Molina[2], N. Meulendijks[2], M. A. Verheijen[2], A.-S. Kelchtermans[1], K. Elen[1], A. Hardy[1], M. K. Van Bael[1], P. Buskens[1] ([1]Belgium, [2]Netherlands)

DES-P-191

Pre-defining the surface environment of the Ti species in Mg/Ti Ziegler-Natta catalysts for polypropylene

F.D. Cannavacciuolo[1,4], G. Antinucci[1,4], R. Cipullo[1,4], V. Busico[1,4], M. Khoshsefat[2,4], T. Toshiaki[2,4], L. Falivene[3,4], L. Cavallo[3,4] ([1]Italy, [2]Japan, [3]Saudi Arabia, [4]Netherlands)

DES-P-192

Enhanced hydrocinnamaldehyde selectivity through support and geometric effects by encapsulation of platinum in S-1

J. Cazemier[1], M. Zaarour[1], P. Lavrik[1], S. Veeranmaril[1], S. Komaty[1], A. Aguilar[2], J. Ruiz-Martinez[1] ([1]Saudi Arabia, [2]France)

DES-P-193

ZrO2/NH2-SiO2 bifunctional flow microreactor for deacetalization-Knoevenagel domino process

A. Ciemięga, K. Maresz, J. Mrowiec-Białoń (Poland)

DES-P-194

Simultaneous mesoporization and metal incorporation offers synthetic and catalytic benefits

D. Verboekend, **M. d'Halluin** (Belgium)

DES-P-195

Perovskites and exsolution treatment for catalytic purposes: the Methane Dry Reforming reaction

G. Da Pian, M. Pizzolato, E. Ghedini, A. Di Michele, F. Menegazzo, G. Cruciani , M. Signoretto (Italy)

DES-P-196

Activity enhancement in Au-Pd bimetallic systems as a result of Co-operation between individual redox reactions

I. T. Daniel[1], X. Huang[1], O. Akdim[1], M. Douthwaite[1], K. Wang[1], L. Zhao[1], R. J. Lewis[1], S. Pattisson[1], D. Bethell[1], S. McIntosh[2], G. J. Hutchings[1] ([1]United Kingdom, [2]USA)

DES-P-197

Metal-organic framework-derived catalysts for upgrading of an Acetone-Butanol-Ethanol (ABE) mixture

K. Deekamwong, C. Phawa, J. Wittayakun, S. Prayoonpokarach (Thailand)

DES-P-198

The transesterification process of vegetable oils based on heterogeneous catalysts of rare and alkaline earth metals

D. Dendek, M. Zakrzewski, T. Maniecki (Poland)

DES-P-199

Fly ashes from energy sector as attractive precursors for synthesis of catalytic materials

P. Rybowicz, R. Panek, A. Łagosz, B. Gil, W. Roth, W. Franus, **A. Adamski** (Poland)

DES-P-200

Aluminium and acid site evolution during zeolite crystallization and thermal activation

J. Devos, S. Robijns, I. Khalil, M. Dusselier (Belgium)

DES-P-201

Mechanistic insights into the solid-state crystallization of high-density zeolite

D. Dey, M. Kumar (India)

DES-P-202

Doped g-C_3N_4 based photonic crystals enhancing light-driven of catalyzed reactions

S. Y. Djoko, M. Schwarze, P. Das, J. Grüneberg, V. Weigelt, E. M. Kutorglo, D. Nguyen D., A. Thomas, R. Schomäcker (Germany)

DES-P-203

Facile synthesis of Au/SiO_2 nanostructures: From 1D to 3D nanotube networks using polycarbonate membranes as template

F. Drault, S. Hermans, S. Demoustier-Champagne (Belgium)

DES-P-204

The reduction/oxidation potential of nickel, cobalt, and copper oxides derived from various precursors

P. Gwóźdź, A. Łącz, S. Komarek, K. Kornaus, **E. Drożdż** (Poland)

DES-P-205

P, O-co-doped carbons as a catalysts in 1-cloro-4-nitrobenzene hydrogenation

E. S. Duran-Uribe, E. V. Ramos-Fernadez, A. Sepulveda-Escribano (Spain)

DES-P-206

Phosphorus-modification of Pt-catalysts boosts the catalytic performance in cycloalkane dehydrogenation

A. Ellert[1], F. Herold[2], A. Hutzler[3], T. Janssens[1], P. Vennestrøm[3], P. Wasserscheid[1], P. Schühle[1] ([1] Germany, [2]Norway, [3] Denmark)

DES-P-207

Fluorination of novel Cu/ZnO/MgO methanol catalysts to improve productivity and selectivity

L. D. Ernst, S. Polinski, I. Krossing (Germany)

DES-P-208

Biodegradable polymer synthesis via acyclic diene metathesis (ADMET) polymerization

V. Farkas, P.l T. Anastas, R. Tuba (Hungary)

DES-P-209

Investigations into modulation of ZSM-5 acidity via modifier-assisted synthesis

M.H.Z. Faruqi, M. Kumar (India)

DES-P-210

Controlling the crystallite size and polydispersity using colloidal silica stabilizing agent

Aditya, M. Kumar (India)

DES-P-211

Mechanochemical synthesis of Ru/CeO_2 catalysts for CO_x-free H_2 production from ammonia decomposition

A. Felli, M. Danielis, M. Zampol, A. Trovarelli, S. Colussi (Italy)

DES-P-212

Empowered catalyst supports

M. Khasu[1], W. Marquart[1], A. J. Mayer[2], S. Dann[2], S. A. Kondrat[2], M. Claeys[1], **N. Fischer[1]** ([1] South Africa, [2]United Kingdom)

DES-P-213

The effect of variation in support porosity for supported catalytically active liquid metal solution catalysts

A. L Folkard[1,2], N. Madubuko[1], N. Taccardi[1], M. Haumann[1], H.B Friedrich[2], P. Wasserscheid[1] ([1] Germany, [2] South Africa)

DES-P-214

Effect of ball-milling operational parameters on the chemistry and morphology of CeO_2 powders

M. Danielis, A. Felli, N. Fonda, S. Colussi, A. Trovarelli (Italy)

DES-P-215

A chemo-enzymatic oxidation cascade to activate C–H bonds with in situ generated H_2O_2

D. R. Ford, R. J. Lewis, G. J. Hutchings (United Kingdom)

DES-P-216

Immobilisation of activated carbons in αAl_2O_3 membranes by click chemistry for advance catalytic oxidation

C. Freitas, O. J. P.S Sousa (Portugal)

DES-P-217

Imidazolium-based hypercrosslinked ionic polymer as metal-free catalyst for N-formylation of amines with CO_2 and Phenylsilane

B. Fuerte-Díez, E. Rangel-Rangel, M. Iglesias, E. M. Maya (Spain)

DES-P-218

Synthesis and catalystic application of bifunctional composite catalysts between supported metal nanoparticles and polyoxometalates

S. Fukuda, S. Kikkawa, R. Takahata, K. Suzuki, K. Yamaguchi, T. Teranishi, S. Yamazoe (Japan)

DES-P-219

Synthesis of heterogeneous catalysts by gliding arc plasma

F. Hanon*, **E. M. Gaigneaux** (Belgium)

DES-P-220

A highly activating electron-rich phosphasilinane ligand for Pd catalyzed C-X coupling reactions

D. Gaiser, M. Gock, S Kräh, O. Trapp (Germany)

DES-P-221

Surface nickel complexes as models for heterogeneous oligomerization catalysts

S. Aïssiou, N. Merle, M. Sauthier (France)

DES-P-222

Insights of the Ru exsolution from $La_1Fe_{0.9}Ru_{0.1}O_3$. Catalysts for propane combustion

J. Gallego[1], Y. Wang[1,2], H. Over[1], B. Smarsly[1] ([1]Germany, [2]China)

DES-P-223

Metal phosphide nanoparticles for the hydrotreatment of methyl laurate

D. G. Pérez[1], M. C. Á. Galván[1], J. M. C. Martín[1], M. C. C. Sánchez[1], S. Habas[2] ([1]Spain, [2] USA)

DES-P-224

Nickel alumina-based catalyst for sorption enhanced reforming: Effect of calcination temperature

Lj. Gavrilović, S. S. Kazi, A. Oliveira, J. Meyer (Norway)

DES-P-225

Recipe for highly dispersed supported multi-metal catalysts: Towards a simple, reliable, cost-efficient, and adaptable synthesis protocol

N. S. Genz, M. Monai, F. Meirer, B. M. Weckhuysen (Netherlands)

DES-P-226

Nickel acetylacetonate on mesoporous zirconia by atomic layer deposition: Initial results

C. Gonsalves, J. Yim, A. Chahal, E. Haimi, M. Mäntymäki, J. Velasco, R. Karinen and R. L. Puurunen (Finland)

DES-P-227

Two-dimensional (2D) cyanide-bridged heterobimetallic complexes as catalysts for CO_2/propylene oxide copolymerization

G. Penche[1], **M. P. González-Marco[1]**, J. R. González-Velasco[1], C. M. Kozak[2], C. Vos[2] ([1]Spain, [2]Canada)

DES-P-228

Single-atom catalysts: Recent developments for the CO_2 and CO hydrogenation reaction

A.I. Latsiou, N.D. Charisiou, A.I. Tsiotsias, Z. Frontistis, M.A. Goula(Greece)

DES-P-229

Studies on potassium-promoted cobalt catalysts for ethanol steam reforming

M. Greluk, M. Rotko, G. Słowik, G. Grzybek, A. Kotarba (Poland)

DES-P-230

Pd-Pt nanoparticles supported on CeO_2 nanorods and nanocubes for emission control

A. De Giacinto[1,2], P. Dolcet[2], M. Casapu[2], J.-D. Grunwaldt[2], **S. Gross[1,2]** ([1]Italy, [2]Germany)

DES-P-231

Influence of deposition method on activity of Ru@magnetic C catalysts on hydrogenation of hydroxymethyl furfural to 2,5-Bis(hydroxymethyl)furan

S. Gyergyek, A. Murovec, Ž. Ponikvar, J. Teržan, M. Grilc, B. Pomeroy, B. Likozar, D. Makovec (Slovenia)

DES-P-232

Efficient Catalysts for Methylcyclohexane Dehydrogenation: Atomically Dispersed Fe Decoration of Al_2O_3 and SiO_2 Supported Pt Catalyst

H. Akhoundzadeh, R. Xu (Singapore)

DES-P-233

Evaluating the effect of fiberous ZrO_2 support the catalytic performance of a hieriachical Ni catalyst in DRM

M. Halabi, O. Naseraldeen, L. Giloni, M. Lahav, G. Grader, O. Gazit (Israel)

DES-P-234

B-site Ni doping in double perovskite enhancing electrochemcial catalytic properties

K. Han, J. Song, Y. Jeon (South Korea)

DES-P-235

Hierarchical hollow al-rich nano ZSM-5 crystals for highly selective production of light olefins from naphthene

L. Han, R. Wang, P. Wang, W. Lin (China)

DES-P-236

Effects of silica and barium oxide addition to alumina carriers for steam reforming

A. Hasegawa, S. Ogasawara, H. Nakamura, K. Matsuda, Y. Kadoma, M. Kobune, T. Honma, T. Nonouchi, O. Okada (Japan)

DES-P-237

Carbon neutral iso-butanol – development of heterogeneous high-performance catalysts based on dilute alloys

J. Häusler, J. Pasel, R. Peters (Germany)

DES-P-238

Non-symmetrical triphos derivatives and their application in ruthenium catalyzed hydrogenation reactions

J. Henkel, O. Osterthun, J. Klankermayer (Germany)

DES-P-239

Influence of support on the dehydrogenation of perhydro benzyltoluene with platinum-based catalysts

E. Herzinger, M. Wolf (Germany)

DES-P-240

Are zeolites promising supports for diesel oxidation catalysts?

P. H. Ho, D. Creaser, L. Olsson (Sweden)

DES-P-241

Pd-Catalyzed direct C-H Carboxylation of Arenes with Carbon Dioxide

G. Kemper, **M. Hölscher**, W. Leitner (Germany)

DES-P-242

Synthesis of graphene supported efficient nano-catalysts for biomass applications

W. Chartier (United Kingdom)

DES-P-243

Mesoporous silica monoliths as porous scaffold for heterogeneous organocatalysis in continuous-flow

U. Ali, P. R. Schreiner, B. M. Smarsly (Germany)

DES-P-244

Ammonia decomposition over transition-metal/carbon catalyst for on-site generation of hydrogen

Z. Chen, M. Poschmann, N. Kowalew, M. Heise-Podleska, T. Stamm, R. Schlögl, S. Heumann (Germany)

DES-P-245

Activity and stability of the catalytic oxidation of methane with Pd/CeO_2 nanorods, nanocubes, and octahedra

M. C. Policano, L. Lefferts, J. A. F. Albanese (Netherlands)

DES-P-246

Selective oxidation reaction using MAX phases as heterogeneous catalysts

I. M. Chirica[1], M. M. Trandafir[1], A. G. Mirea[1], F.Neaţu[1], Ş. Neaţu[1], M.W. Barsoum[1], M. Florea[1] (Romania, [2]USA)

DES-P-247

Formation of oxygen vacancies and their role in $LaCoO_3$ perovskite catalysts for CO oxidation

J. Cho, S. Kim, M. Kim, K. T. Park, H. W. Park, J. C. Jung (South Korea)

DES-P-248

Highly selective CO_2 fixation reaction over single-Ta-substituted Lindqvist-type hexaniobate cluster as base catalyst

V. Chudatemiya, M. Tsukada, H. Nagakari, S. Kikkawa, N. Nakatani, S. Yamazoe (Japan)

DES-P-249

Development of adaptive catalytical systems for hydrogenation reactions

V. Chugh, B. Chatterjee, W.C. Chang, H. H. Cramer, H. Randel, C. Hindemith, T. Weyhermüller, C. Farès, C. Werlé (Germany)

DES-P-250

Photocatalytic oxidation of aromatic alcohols to aromatic ketones over non-toxic dye-sensitized photocatalysts

S. Imai, S. Yuka, A. Onda, K. Imamura (Japan)

DES-P-251

Cooperative catalysis between Au nanoparticles and metal oxides for rapid C–B bond formation

K. Imoto[1], H. Miura[1], A. Junkaew[2], M. Ehara[1], T. Shihido[1] ([1]Japan, [2]Thailand)

DES-P-252

Decoration of Au/SiO_2 by thin metal oxide layer derived from layered double hydroxides

K. Okayama, A. Nakayama, T. Murayama, N. Sakaguchi, T. Shimada, S. Takagi, **T. Ishida** (Japan)

DES-P-253

Acid catalysis over crystalline Zr_3SO_9: Role of the local structure in generating acidity

S. Ishikawa, M. Tao, T. Ikeda, S. Yasumura, K. Shimoda, R. Osuga, Y. Jing, T. Toyao, Ken-ichi Shimizu, H. Matsuhashi, W. Ueda (Japan)

DES-P-254

Innovative 3D printed gyroid Ni/Al_2O_3 catalyst for enhanced CO_2 methanation

K. Jivrakh, **A. Alkhoori**, K. Polychronopoulou, R. Abu Al-Rub, G. N. Karanikolos (United Arab Emirates)

DES-P-255

Understanding titania crystallization to generate engineered anatase particle architecture

A. Jain, M. Kumar (India)

DES-P-256

Polypropylene imine (PPI) dendrimers as promising matrices for the immobilization of catalysts for hydrogen isotope exchange reactions

L. Jedlovčnik[1], J. Höfferle[1], J. Košmrlj[1], V. Derdau[2], **R. D. Jansen-van Vuuren[1]** ([1]Slovenia, [2]Germany)

DES-P-257

Emergence of active and stable platinum nanoparticles from titanate perovskites for catalytic applications

Y. Jeon[1,2], M. Kothari[2], D. N. Miller[2], A. E. Pascui[2], J. Kilmartin[2], S. Ramos[2], A. Chadwick[2], J. T. S. Irvine[2] ([1]South Korea, [2]UK)

DES-P-258

SiO_2@Ni@ZrO_2 core-shell catalyst for combined steam and dry reforming of methane

S. Ji, Eun J. Lee, H. Woo, K.-Y. Lee (South Korea)

DES-P-259

Atomic-layer-deposition derived Pt sub-nano clusters on the (110) facet of hexagonal Al_2O_3 Plates: efficient for formic acid decomposition and water gas shift

T. T. Chen[1], J. T. Chen[2], W. J. Song[1], S. Hu[1], X. Z. Feng[1], Z. X. Chen[1], **W. J. Ji[1]** ([1]China, [2]Canada)

DES-P-260

Novel oxyhydride electride activating Co catalyst for ammonia synthesis

Y. Jiang, M. Miyazaki, H. Hosono, M. Kitano (Japan)

DES-P-261

Plasma jet sputtering as a perspective tool for preparation of Co-Cu-Mn oxides: effect of preparation conditions on properties and oxidation activity

K. Jirátová, M. Čada, R. Perekrestov, J. Balabánová, M. Koštejn, J. Maixner, P. Topka, Z. Hubička, F. Kovanda (Czechia)

DES-P-262

Mesoporous Pt–MnOx–Al_2O_3 catalyst for dehydrogenation of perhydro benzyltoluene: Highly dispersed Pt–MnOx clusters for activity boosting

Y. Jo, Y.-W. Suh (South Korea)

DES-P-263

Preparation and characterization of promoted supported MoS2 catalysts for hydrodenitrogenation

J. Kattelus, J. Velasco, P. Auvinen, S. Albersberger, H. Jiang, K. Meinander, A. Chahal, R. Karinen, R. L. Puurunen (Finland)

DES-P-264

Selective hydrogenation of acetylene in excess of ethylene over Pd nanoclusters in 3D graphene-like carbon catalysts

D. Kaucký, J. Morávková, R. Pilař, G. Sádovská, S. S. Faal-Rastegar, A. Vondrová, P. Sazama (Czechia)

DES-P-265

Mechanochemical generation of acid surface sites at the interface TiO2/graphite: application for the dehydration of formic acid

A. Guerrero-Ruiz, M. Yruela-Garrido, N. Martín-Rodríguez, E. Campos, J. M. Conesa, I. Rodríguez-Ramos, E. Castillejos (Madrid, Spain)

Catalyst characterization incl. operando methods: experiment and theory

CHAR-P-001

In-Situ operando and Ex-Situ study on light Hydrocarbon-Like-Diesel and catalyst deactivation kinetic and mechanism study during deoxygenation of sludge oil

G. Abdulkareem-Alsultan, N. Asikin-Mijan, R. Yunus, Y. H. Taufiq-Yap (Malaysia)

CHAR-P-002

Copper-nickel deoxygenation catalysts Part I: Reducicbility and surface area

K. Pacultová, K. Karásková, D. Fridrichová, **T. Bílková**, J. Aubrecht, B. Shumeiko, D. Kubička (Czechia)

CHAR-P-003

Dynamics of metal-support electron transfer: an XFEL study

H. Gu, Y.Ren, Z.Wang, S.H. Park, S.Kwon, **F.R.Wang** (UK)

CHAR-P-004

In situ XAS and XES studies of Cu-CHA catalysts for Selective Catalytic Reduction (SCR) Reaction

Z. Wang, Prof. R. Wang (UK)

CHAR-P-005

Evolution of chemical states of Pt during CO oxidation over the Pt/CeO_2 dominated with Pt-O-Ce and PtO_x

M. Wang, Y. Zhang, Z. Wu, Y. Zheng, Z. Zhou, **W. Weng** (China)

CHAR-P-006

Monitoring reduction process of supported Pd nanoparticles with hydrogen by operando ^{1}H NMR spectroscopy

B. Yilmaz, E. Mete, D. Uner (Turkey)

CHAR-P-007

Identifying active centres of the VPO catalyst

F. Wolf[1], C. Kaul[2], A. Myachin[2], K. Durner[1], I. Kappel[1], A. Beck[2], **S. Boecklein**[1], S.-H. Park[1], W. W. Schmahl[1], G. Mestl[1], J. van Bokhoven[2], J. Wintterlin[1] ([1]Germany, [2]Switzerland)

CHAR-P-008

Ball-milled CeO_2-CuO catalysts for methane activation: an in-situ DRIFT / operando NEXAFS study

R. Calligaro, S. Mauri, C. F. Pauletti, M. Farnesi Camellone, S. Piccinin, M. Boaro, L. Braglia, P. Torelli, A. Trovarelli (Italy)

CHAR-P-009

Exploring ZSM-5/alumina shaped objects with X-ray diffraction computed tomography

I. Capel Berdiell[1], D. Wragg[1], T. Cordero-Lanzac[1], N. Haaber-Junge[1], P. Beato[2], L. F. Lundegaard[2], G. Vaughan[3], M. Di Michel[3], L. P. Nogueira[1], S. Svelle ([1]Norway, [2]Denmark, [3]France)

CHAR-P-010

Crystallite size dependent oxidation of Ni catalysts revealed by in situ magnetometry

D. de Oliveira[1], N. Fischer[1], M. Higham[2], C.R.C. Catlow[2] and M. Claeys[1] ([1]South Africa, [2]UK)

CHAR-P-011

Support Effects on the preferential oxidation of carbon monoxide over Co_3O_4 nanoparticles studied in situ

T. M. Nyathi[1], M. I. Fadlalla[1], N. Fischer[1], A. P. E. York[2], E. J. Olivier[1], E. K. Gibson[2], P. P. Wells[5], M. Claeys[1] (South Africa)

CHAR-P-012

Studies of the structure-transport relationships in gamma alumina catalytic supports using NMR cryodiffusometry

S. Collins[1,2], H. Williams[1], C. Parmenter[1], C. Vallée[2], T. Chevalier[2], D. Lofficial[2], S. Rigby[1] ([1]UK, [2]France)

CHAR-P-013

Investigating the effect of Cu on dealumination in CHA zeolites

V. Saltão[1,2], V. Crocellà[2], S. Bordiga[2], G. Berlier[2] ([1]Germany, [2]Italy)

CHAR-P-014

Operando Drifts-Mes study of CO-Oxidation over $LaFe_{1-x}Co_xO3$ catalysts

N. Cosanne, M. Dreyer, S. Najafishirtari, M. Behrens (Germany)

CHAR-P-015

Investigations of the Effect of H_2 in CO oxidation over ceria catalysts

A. Davó-Quiñonero[1,2], S. López-Rodríguez[1], C. Chaparro-Garnica[1], I. Martín-García[1], E. Bailón-García[1], D. Lozano-Castelló[1] , A. Bueno-López[1], M. García-Melchor[2] ([1]Spain, [2]Ireland)

CHAR-P-016

Structural, textural and functional properties of supported Cu- and Zn-containing catalysts for hydrogenation of CO_2

A. Proszowska, Y. Vitushynska, P. Rybowicz, P. Legutko, M. Michalik, **A. Adamski** (Poland)

CHAR-P-017

Kinetics of hydrogen release in mono- and bimetallic PdX nanoparticles probed by QEXAFS and synchrotron XRD

D. E. Doronkin, T.J. Eldridge, S. Wang, S. Behrens, J.-D. Grunwaldt (Germany)

CHAR-P-018

Operando XAS Study of Pd species during H_2-SCR of NOx

T. J. Eldridge, M. l. Borchers, P. Lott, D. E. Doronkin, O. Deutschmann, J.-D. Grunwaldt (Germany)

CHAR-P-019

NOTOS beamline at ALBA Synchrotron: new tools for catalyst characterization under operando conditions

C. Escudero, G. Agostini, O. Vallcorba, J. Prat, D. Heinis, Á. Baucells, J. R. García, R. Homs, N. Serra, J. Nicolàs (Spain)

CHAR-P-020

Understanding the impact of reaction conditions on methanation catalyst structure and performance using in-situ total scattering

B. Fahl, F. Manzoni, F. Müller, M. Zobel (Germany)

CHAR-P-021

Synthesis and characterization of mixed metal NH_2-MIL-125 based metal-organic frameworks for use as catalysts

Leidy Figueroa-Quintero, Javier Narciso, Enrique V. Ramos-Fernandez (Spain)

CHAR-P-022

Operando spectroscopic study of Cu-MOFs for direct methane to methanol conversion: a comparison of different Cu ligands

V. Finelli[1], E. Aunan[2], B. Centrella[1], G. Deplano[1], B. Garetto[1], N. G. Porcaro[1], M. Bonomo[1], A. Damin[1], M. Signorile[1], E. Borfecchia[1], B. G. Solemsli[2], S. Prodinger[2], C. Barolo[1], P. Szilagyi[2], K.P. Lillerud[2], U. Olsbye[2], S. Bordiga[1] ([1,2]Italy, [3]Norway)

CHAR-P-023

Nb_2O_5-P_2O_5-SiO_2 catalysts: a focus on surface acidity.

E. Finocchio, G. Garbarino, G. Busca, A. Gervasini, S. Campisi, B. Silvestri, C. Imparato, A. Aronne (Italy)

CHAR-P-024

Strong metal support interaction studied with operando electron microscopy

H. Frey[1], A. Beck[2], X. Huang,[3] J. A. van Bokhoven[1], M.-G. Willinger[4] ([1]Switzerland, [2]USA, [3]China, [4]Germany)

CHAR-P-025

Lithium/copper/aluminum oxides based on LDH structures: redox and acidobasic properties

K. Frolich, J. Malina, O. Chovanec, M. Hájek (Czechia)

CHAR-P-026

The distribution and relocation of copper species in Cu-molecular sieves with different topologies: an EPR investigation

Q. Gao, S. Mossin (Denmark)

CHAR-P-027

Influence of precursors structure on active phase formation of Co-Mo ammonia synthesis catalysts

P. Adamski[1,2], D. Moszyński[2] ([1]Germany, [2]Poland)

CHAR-P-028

Activity and stability of catalysts deNOx/deN_2O Nitric Acid Process

A. Garbujo[1], F. Oldani[1], R. Lanza[2], A. Lahougue[3], E. Rohart[3], P. Biasi[1]. (Switzerland, [2]Sweden, [3]France)

CHAR-P-029

The power of operando lab-based X-ray absorption spectroscopy: Unravelling synergistic effects in bimetallic CO_2 hydrogenation catalysts

N.S. Genz[1], A.-J. Kallio[2], F. Krumeich[3], S. Huotari[2], F. Meirer[1], B.M. Weckhuysen[1] ([1]Netherlands, [2]Finland, [3]Switzerland)

CHAR-P-030

Unraveling the catalytic role of Pt single-atom catalysts in acetylene hydrochlorination by operando X-ray absorption spectroscopy

V. Giulimondi, G. Giannakakis, I. Surin, A.H. Clark, J. PérezRamírez (Switzerland)

CHAR-P-031

Methane oxidation to methanol by operando UV-vis-IR spectroscopy. The role of type, location and number of Fe sites in mordenite.

K. A. Tarach, J. Sobalska, A. Held, **K. Góra-Marek** (Poland)

CHAR-P-032

Tracking transformation of reagents in zeolites: 2D COS rapid scan IR and UV-vis spectroscopic approach

K.A. Tarach[1], W.Chen[2], E.A. Palomares[3], J. Martinez-Triguero[3], A. Zheng[2], **K. Góra-Marek**[1] ([1]Poland, [2]China, [3]Spain)

CHAR-P-033

Surface science behind CuO catalytic efficiency

S. Górecka, K. Pacultová (Czechia)

CHAR-P-034

Cobalt-containing high-silica ZSM-5 catalysts as efficient catalysts for ethanol steam reforming process: Operando UV-Vis and FT-IR spectroscopy investigation

G. Grzybek, M. Greluk, P. Stelmachowski, K. Tarach, G. Słowik, M. Rotko, K. Góra-Marek (Poland)

CHAR-P-035

On the role of nickel in doped MoO_3 based HDO catalysts

S. Haida[1], S. Löbner[1], H. Lund[1], A. Abdel-Mageed[1], S. Wohlrab[1], N. Escalona[2], C. Kubis[1], A. Brückner[1] ([1]Germany, [2]Chile)

CHAR-P-036

Characterization of NiMo catalysts with noble metal promoters

F. Hallböök, T. Kristiansen, J. E. Nordlander, S. Gericke, Ch. Hulteberg, S. Blomberg (Sweden)

CHAR-P-037

The search for a new Deacon catalyst: modeling catalyst stability across the periodic table

F. Hess (Germany)

CHAR-P-038

Influence of water vapor treatment for NH3-TPD on solid acid catalysts

J. Adolphs[1], Y. Konishi[2] ([1]Germany, [2]Japan)

CHAR-P-039

Passivation and transfer of metal containing catalysts for ex situ characterisation

E. H. Wolf, J. Schittkowski, D. Ramermann, J. Folke, W. Hetaba, R. Schlögl, H. Ruland (Germany)

CHAR-P-040

Operando XAFS/XES studies on Fe-containing zeolites to identify active sites for catalytic fast pyrolysis to fuels and chemicals

L. J. R. Higgins, P. A. Wright, J. F. W. Mosselmans, A. M. Beale (UK)

CHAR-P-041

In-Situ deactivation measurements on bifunctional cataysts for one-step DME SYNTHESIS

F. Hilfinger[1], S. F. Gatti[2], I. Krossing[1] ([1]Germany, [2]Switzerland)

CHAR-P-042

Isopotential operando spectroscopy – A new concept for operando studies of catalysts in catalytic reactors

B. Wollak, K. Bharatula, S.-F. Stahl, S. Sichert, O. Korup, **R. Horn** (Germany)

CHAR-P-043

Methane pyrolysis on NiMo/MgO: Details of the synergetic effect

A. Horváth, M. Németh, T.I. Korányi, A. Beck, Gy. Sáfrán, Zs.E. Horváth, I. Rigó (Hungary)

CHAR-P-044

Probing the effect of electrolyte impurities on perovskite-based catalysts for electrochemical evolution of oxygen via in-situ Raman spectroscopy

H. Cheraparambil, Y. Wang, H. Tüysüz, C. Weidenthaler (Germany)

CHAR-P-045

Influence of support composition and potassium ion doping on the properties of cerium-doped zirconia supported silver catalysts

E. Iwanek, A. Siwiec, S. Siennicka, Z. Kaszkur (Poland)

CHAR-P-046

Splitting of molecular oxygen for catalytic application

H. Jirglová, E. Tabor, M. Lemishka, A. Kornas, K. Mlekodaj, J. E. Olszówka, J. Dědeček (Czechia)

CHAR-P-047

Structural characterization of molecular organic frameworks and single atom catalysts for heterogeneous catalysis

I. Kappel, M. Vennewald, R. Palkovits, C. Weidenthaler (Germany)

CHAR-P-048

Effects of hydrothermal ageing on the dynamic nature of active sites in Cu-exchanged small pore zeolites during NH_3-SCR

R. Khare, M. Wenig, A. Jentys, J. A. Lercher (Germany)

CHAR-P-049

Epoxidation of light olefins on titanium silicate catalyst

M. Alvear, K. Eränen, D. Murzin, N. Kumar, T. Salmi (Finland)

CHAR-P-050

Catalyst materials characterization by Time-of-Flight Secondary Ion Mass Spectrometry (ToF-SIMS)

M. Kleine-Boymann, S. Kayser, J. Zakel (Germany)

CHAR-P-051

Catalytic behaviour of boron based materials in propane ODH

K. Knotková, M. Sajad, R. Bulánek (Czechia)

CHAR-P-052

Understanding the mechanism of preparative green MOF-74 syntheses using operando ATR-IR spectroscopy

I. Kochetygov, M. Ranocchiari, D. Ferri (Switzerland)

CHAR-P-053

Genesis of cuprous acetylide Cu_2C_2 as active species for reppe ethynylation of formaldehyde

L. Kong, F. Bannert, K. Köhler, A. Reitzmann, R. Bobka, D. Beierlein (Germany)

CHAR-P-054

The functionality of binuclear centres in CHA in the dissociation of molecular oxygen

A. Kornas[1], K. Mlekodaj[1], E. Tabor[1], D. K. Wierzbicki[2], S. Sklenak[1], H. Jirglová[1], J. Dědeček[1] ([1]Czechia, [2]Switzerland)

CHAR-P-055

The role of metal-support interactions in shape-controlled TiO_2 systems for photocatalytic hydrogen evolution

E. Kozyr[1], F. Pellegrino[1], S. Bordiga[1], E. Groppo[1], A. Bugaev[2], L. Mino[1] (Italy)

CHAR-P-056

Effect of H_2O pre-exposure on CH_4 oxidation and passive NO_x adsorption performance over Pd/zeolite catalysts

T. Mon, J. Concolino, J. Chen, **E. A. Kyriakidou** (USA)

CHAR-P-057

Uncovering active site deactivation dynamics in the industrial decomposition of N_2O through operando infrared spectroscopy

M. Laluc[1], A. Lahougue[1], E. Rohart[1], A. Garbujo[2], P. Biasi[2], P. Bazin[2], M. Daturi[1] ([1]France, [2]Switzerland)

CHAR-P-058

Revealing the formation and reactivity of cage-confined Cu pairs in catalytic NOx reduction over Cu-SSZ-13 zeolites by in situ UV-Vis spectroscopy and time-dependent DFT calculations

H. Lei [1,2], D. Ye[2], P. Chen[2], U. Simon[1] ([1]Germany, [2]China)

CHAR-P-059

Distant binuclear vanadium V(II) cationic sites in the ferrierite zeolite. A DFT study of their properties

M. Lemishka, J. Dedecek, A. M. Kornas, E. Tabor, S. Sklenak (Czechia)

CHAR-P-060

Elucidating the effects of promoters on rhodium catalysts in the CO_2 hydrogenation to alcohols using DRIFTS

R. van der Pluijm, **A. Bansode**, A. Urakawa (Netherlands)

CHAR-P-061

Hierarchical pore networks: Comparison between differential cycling high-resolution mercury porosimetry, classical mercury porosimetry, and reverberi technique

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CHAR-P-062

The role of surface species on platinum in selective ammonia oxidation to nitrogen

V. I. Marchuk, D. I. Sharapa, F. Studt, J.-D. Grunwaldt, D. E. Doronkin (Germany)

CHAR-P-063

Identification of the active centres in FER and MOR for N_2O processing

M.C. Campa[1], D. Pietrogiacomi[1], C. Catracchia[1], J.E. Olszowka[2], **K. Mlekodaj[2]**, M. Lemishka[2], J. Dedecek[2], E. Tabor[2] ([1]Italy, [2]Czechia)

CHAR-P-064

SO_2 poisoning of the Cu-CHA deNO_x catalyst monitored by X-ray absorption spectroscopy

A. Yu. Molokova[1,2], G. Berlier[2], E. Borfecchia[2], T. V. W. Janssens[3], S. Bordiga[2], F. Wen[4], P. N. R. Vennestrøm[3], K. A. Lomachenko[1] ([1]France, [2]Italy, [3]Denmark, [4]Germany)

CHAR-P-065

Restructuring of TiO_x overlayers over Ni nanoparticles during catalysis

M. Monai[1], K. Jenkinson[2], A. E. M. Melcherts[1], J. N. Louwen[1], E. A. Irmak[2], S. Van Aert[2], T. Altantzis[2], C. Vogt[1], W. van der Stam[1], T. Duchoň[3], B. Šmíd[4], E. Groeneveld[1], P. Berben[1], S. Bals[2], B. M. Weckhuysen[1] ([1]Netherlands, [2]Belgium, [3]Germany, [4]Czechia)

CHAR-P-066

Identifying the species producing ethylene and propylene in the methanol-to-olefin reaction by operando spectroscopy

J. C. Navarro de Miguel, S. Chung, T. Li, J. Ruiz-Martínez (Saudi Arabia)

CHAR-P-067

Kinetic and operando UV-vis study of NH_3-SCR over V/TiO_2

A. Lanza[1,2], R. Resmini[1], J. Gopakumar[3], D. Chen[3], K. Rut[3], **C. Negri**[1], M. Maestri[1], A. Beretta[1] ([1]Italy, [2]UK, [3] Norway)

CHAR-P-068

SiO_2-Supported Co_xPt_y nanoalloys for the dry reforming of methane

D. Niedbalka, L. Thommen, P. M. Abdala, C. R. Müller (Switzerland)

CHAR-P-069

Neutron reflectometry reveals the structure of a high-performing SEI layer for lithium-mediated nitrogen reduction to ammonia

V. A. Niemann[1], M. Doucet[1], N. H. Deissler[4], H. Wang[1], P. Benedek[1], J.B. Mygind[2], W.A. Tarpeh[1], I. Chorkendorff[2], A. C. Nielander[1], T.F. Jaramillo[1] ([1]USA, [2]Denmark)

CHAR-P-070

An in situ & operando FTIR-DRIFTS-MS analysis of CDRM reaction at low temperature over Ru-La/ZrO_2 catalyst

O. Ordulu, A. Uzun, B. S. Çağlayan, A. E. Aksoylu (Turkey)

CHAR-P-071

Rigorous oxidation state assignments for supported Ga-containing catalysts using theory-informed X-Ray absorption spectroscopy signatures from well-defined Ga(I) and Ga(III) compounds

F. D. Vila, Jason A. Chalmers, L. Li, S. L. Scott, **S. R. Bare** (US)

CHAR-P-072

Copper-nickel deoxygenation catalysts part II: Adsorption properties determined by TPD

K. Pacultová, K. Karásková, D. Fridrichová, T. Bílková, J. Aubrecht, B. Shumeiko, D. Kubička (Czechia)

CHAR-P-073

Effect of Co addition to Pd-CeO_2 for lean methane combustion

L. Pascua-Solé, I. J. Villar-Garcia, V. Pérez-Dieste, C. Escudero, N. J. Divins, J. Llorca (Spain)

CHAR-P-074

Support effects on ammonia decomposition on supported Cu catalysts

S. Peters, A. Kavaklioti, S. Wohlrab, A. M. Abdel-Mageed (Germany)

CHAR-P-075

DFT modelling and high-resolution solid-state NMR to identify γ-Alumina hydroxyls structure, location and spatial proximities

T. Pigeon, A. T. F. Batista, J. Meyet, D. Wisser, M. Rivallan, D. Gajan, L. Catita, F. Diehl, A.S. Gay, C. Chizallet, A. Lesage, P. Raybaud (France)

CHAR-P-076

Insights in the water gas shift reaction over $CoFe_2O_4$ and $NiFe_2O_4$ based on operando spectroscopy techniques

M. Pittenauer, R. Rameshan, F. Schrenk, C. Rameshan, K. Föttinger (Austria)

CHAR-P-077

Spectroscopic characterisation of Keggin-type polyoxometalate catalysts

M. J. Poller, J.-Ch. Raabe, J. Albert (Germany)

CHAR-P-078

Is Ce^{3+}/Ce^{4+} redox necessary: Extreme high CO conversion at non-reducible CeO_2 surface

Y. Ren[1], H.Gu[1], X. Guan[1], Z.i Yao[1], M. Wu[2], Ch. Jia[2], F. R. Wang[1] ([1]UK, [2]China)

CHAR-P-079

Comparative study of the aging time of Cu/TiO_2 catalysts: effect of the preparation method

A. J. R. Estevez[1,2], L. Djakovitch[1], S. Loridant[1], T. Epicier[1], N. Perret[1] (France)

CHAR-P-080

Decisive structural parameters for stability of carbon catalysts

G. Sádovská, P. Honcová, J. Morávková, I. Jirka, M. Vorokhta, R. Pilař, J. Rathouský, D. Kaucký, E. Mikysková, P. Sazama (Czechia)

CHAR-P-081

Study of active sites involved in the oxidative dehydrogenation of propane via boron nitride

M. Sajad, K. Knotková, S. Šlang, M. Rubeš, R. Bulanek (Czechia)

CHAR-P-082

Dynamics of nanoparticle motion and metal-oxide support in redox-reactive gases

A. Beck[1], H. Frey[1], X. Huang[3], M.-G. Willinger[2], J. A. van Bokhoven[1] ([1]Switzerland, [2]Germany, [3]China)

CHAR-P-083

Combined XAS and DRIFT Spectroscopic Investigation to Unravel the Dynamic Structural Evolution of Supported Atoms and Clusters

B. B. Sarma[1,2], J. Jelic[1], D. Neukum[1], D. E. Doronkin[1], X. Huang[1], F. Studt[1], J.-D., Grunwaldt[1] ([1]Germany, [2]UK)

CHAR-P-084

Visualizing sulphur poisoning in structured honeycomb catalysts with hard x-ray nanotomography

S. Sharma[1], T. Delrieux[1], D. Karpov[2], M. Casapu[1], J.-D. Grunwaldt[1], T.L. Sheppard[1] ([1]Germany, [2]France)

CHAR-P-085

Hard X-ray tomography reveals structural degradation and chemical composition of Pt/Rh gauze catalysts for NH_3 oxidation

S. Das, M. Stuckelberger, J. Pottbacker, S. Jakobtorweihen, R. Horn, T. L. Sheppard (Germany)

CHAR-P-086

Elucidating the role of bismuth as a promotor element on the Pt-Catalyzed CO oxidation reaction

J. Siewe, E.T.C. Vogt, B.M. Weckhuysen (Netherlands)

CHAR-P-087

Reconstruction of the ZnAl mixed oxides into the layered double hydroxide catalysts active in the aldol condensation of furfural

L. Dubnová, R. Daňhel, V. Meinhardová, V. Korolova, **L. Smoláková**, T. Kondratowicz, O. Kikhtyanin, L. Čapek (Czechia)

CHAR-P-088

Surface photovoltage application for revealing carrier transfer behaviour and photocatalytic mechanisms in photocatalyst systems

K. Spilarewicz, A. Jakimińska, K. Urbanek, W. Macyk (Poland)

CHAR-P-089

Toolkit for the structural characterization of mesoporous zeolite catalysts

K. C. Struckhoff[1]; M. Thommes[2] ([1]USA, [2]Germany)

CHAR-P-090

Probing the possibility of cooperativity of two divalent cations in Si-rich zeolites by Zn(II) emission quenching

E. Tabor, J. E. Olszowka, P. Kubat, J. Dedecek (Czechia)

CHAR-P-091

Assessment of Ag-sites speciation in ZSM-5 zeolite - operando UV-Vis and FT-IR studies

K. Tarach[1], A. Kordek[1], K. Gora-Marek[1], M. Smoliło-Utrata[1], J. Martínez Triguero[2], F. Rey[2] ([1]Poland, [2]Spain)

CHAR-P-092

Comprehesive assement of coke nature formed during ethylene oligomerization - influence of structural, textural and acidic parameters

K. Tarach[1], O. Rogala[1], M. Smoliło-Utrata[1], J. Martínez-Triguero[2], F. Rey[2], K. Góra-Marek[1] ([1]Poland, [2]Spain)

CHAR-P-093

Three-dimensional electron microscopy characterisation of silver before and after oxidation of CO, H_2 and CH_3OH

T. Bergh, Y. van Valen, T. Skrzydlo, J. Yang, O. H. Bjørkedal, T. By, H. J. Venvik (Norway)

CHAR-P-094

Electrified ethylene epoxidation using computationally predicted catalytic formulation

M. Huš[1,2], **J. Teržan**[1], A. Sedminek[1], S. Gyergyek[1], M. Grilc[1], B. Likozar[1], A. Hellman[2] ([1]Slovenia, [2]Sweden)

CHAR-P-095

Combining spectroscopic online monitoring with additive manufacturing in continuous flow liquid phase processes

V. Truttmann, M. Kaya, C. Klahn, B. Häfner, C. Jakob, D. Doronkin, E. Saraçi, J.-D. Grunwaldt, (Germany)

CHAR-P-096

Mössbauer spectroscopy study into promoter effects in Fe-Based water-gas shift catalysts

L. G. A. van de Water[1], M. I. Ariëns[2], A. I. Dugulan[2], E. Brück[2], E. J. M. Hensen[2] ([1]UK, [2]Netherlands)

CHAR-P-097

Effect of the impregnation method on the properties of sulfided NiMo hydrotreating catalysts

J. Kattelus, **J. A. Velasco**, P. Auvinen, A. Singh, A. Arandia, K. Meinander, H. Jiang, S. Albersberger, R. Karinen, R.L. Puurunen (Finland)

CHAR-P-098

Exclusive effect of two-dimensional supports on platinum nanocatalyst properties

M. Veselý, I. Danylo, L. Koláčný, S. Rimpelová, M. Pitínová, T. Hartman, Z. Sofer (Czechia)

CHAR-P-099

A combined XAS-TRM approach for the kinetic analysis of the Standard SCR redox mechanism over Cu-CHA catalysts

R. Villamaina[2], M. Ruggeri[2], H. Islam[2], F. Gramigni[1], U. Iacobone[1], N. Usberti[1], N. Nasello[1], I. Nova[1], L. Mantarosie[2], J. Collier[2] , M. Amboage[2], E. Tronconi[1] ([1]Italy, [2]UK)

CHAR-P-100

Operando Luminescence Thermometry of Propane Dehydrogenation Catalysis

R. Vogel, F. T. Rabouw, B. M. Weckhuysen (Netherlands)

CHAR-P-102

On the basicity dermination of thermally unstable materials

L. D. Sekerová, I. Paterová, **E. Vyskočilová** (Czechia)

CHAR-P-103

Perspectives for in situ/operando research at the SOLARIS synchrotron in Krakow

A. Wach, A. Maximenko, G. Gazdowicz, K. Sowa, P. Korecki, M. Sliwa, A. Lewera, W. Macyk, J. Szlachetko, Z. Sojka (Poland)

Bulk chemicals and polymers

CHEM-P-001

Architecture of Industrial Bi-Mo-Co-Fe-K-O Acrolein Catalysts

K. Amakawa[1], J. Mauß[1], P. Müller[1], B. Hinrichsen[1], S. Hirth[1], A. Bader[1], S. Price[2], S. Jacques[2], J. Macht[1] ([1]Germany, [2]UK)

CHEM-P-002

Improved heterogeneous Brønsted acid catalysts for cyclic acetal synthesis

M. Houbrechts, W. Stuyck, D. De Vos (Belgium)

CHEM-P-003

Room temperature plasma-based ammonia synthesis – designing an optimal adsorbent

B. Rolim, T. Kristenssen, **C. Hulteberg** (Sweden)

CHEM-P-004

Hydrothermal synthesis of double metal cyanide catalysts for polyether and polycarbonate polyols production

H.-K. Choi, C. H. Tran, E.-G. Lee, B.-R. Moon, I. Kim (South Korea)

CHEM-P-005

Study of WGS catalyst and CO_2 separation for H_2 production

C. Jeong and J. Kim (South Korea)

CHEM-P-006

Effect of the vanadia structure on the kinetics of methanol oxidative dehydrogenation

G. Galdames, C. Fuenzalida, C. Lillo, P. Santander, R. Jimenez, **A. Karelovic** (Chile)

CHEM-P-007

Green hydroxylation and ketonization of polyethylene using titanosilicate catalysts

R. Lemmens, J. Vercammen, D. De Vos (Belgium)

CHEM-P-008

Catalytic valorization of plastic waste pyrolysis non-condensable gases towards propylene production

E. Mahmoudi[1], S. A. Theofanidis[1,2], A. A. Lemonidou[1] ([1]Greece, [2]Luxembourg)

CHEM-P-009

Synthesis of terephthalic plasticizer from waste poly(ethylene terephthalate) in the presence of organotin catalyst

M. Muszyński, A. Krasuska, J. Nowicki, G. M. Dudek, E. N.-Bogdan, M. Bartoszewicz (Poland)

CHEM-P-010

Brønsted acid catalysis opens a new green route to thiolactide, a monomer for novel and potentially sustainable polythiolester materials

An S. Narmon, I. Khalil, G. Ivanushkin, M. Dusselier (Belgium)

CHEM-P-011

Effect of support on Ru-based catalysts in oxidation of nitric oxide for nitric acid production

J. Gopakumar, B.C. Enger, D. Waller, **M. Rønning** (Norway)

CHEM-P-012

Lowering the operating temperature of Au acetylene hydrochlorination catalysts using oxidised carbon supports

S. Pattisson, S. Dawson, G. Malta, N. Dummer, L. Smith, A. Lazaridou, D. Morgan, S. Freakley, S. Kondrat, J. Smit, P. Johnston, G. Hutchings, **J. Cartwright** (United Kingdom)

CHEM-P-013

Extrusion of optimized catalysts with smart extrusion technology from ECT-KEMA – perspectives and potential

T. Seidel, M. Simon (Germany)

CHEM-P-014

Identification of significant parameter in the Ostwald process using statistically optimized experimental designs

L.-C. Stoltenberg, F. Kornemann, F. Biermann, A. Wiser, C. Renk, A. Orth (Germany)

CHEM-P-015

OFMSW as a potential secondary raw material for chemical recycling

J. Bobek-Nagy, **E. Tóth**, R. Fejes, K.Berta, A. Sarkady R. Kurdi (Hungary)

CHEM-P-016

Structure and activity relationship studies of double metal cyanide catalyzed ring-opening polymerization of cyclic monomers

C. H. Tran, H.-K. Choi, E.-G. Lee, B.-R. Moon, I. Kim (South Korea)

CHEM-P-017

Oxidation of methanol to formaldehyde over silver using an annular reactor

Y. van Valen, T. Bergh, T. Skrzydlo, O.H. Bjørkedal, T. By, R. Lødeng, J. Yang, H.J. Venvik (Norway)

CHEM-P-018

Natural-polymers-based nanocomposites prepared through ultrasound-assisted hydrosolvothermal methods: Selective photoredox catalysis

J. C. Colmenares, B. Hashemi, D. Lomot (Poland)

CHEM-P-019

Effect of catalyst composition and preparation method on the activity and stability of Ni-Pt based catalysts for methane steam reforming

A. De Giacinto, E. Tusini, M. Casapu, D. E. Doronkin, A. Zimina, J.-D. Grunwaldt (Germany)

CHEM-P-020

Palladium catalyzed double reductive amination of bisphenols towards high value diamines

M. Degelin, S. V. Minnebruggen, D. E. De Vos (Belgium)

CHEM-P-021

Active and regioselective ru single-site heterogeneous catalysts for alpha-olefin hydroformylation

F. J. Escobar-Bedia, M. Lopez-Haro, J. J. Calvino, V. Martin-Diaconescu, L. Simonelli, V. Perez-Dieste, M. J. Sabater, P. Concepción, A. Corma (Spain)

CHEM-P-022

Methyl Acetate production over cation exchange resin catalysts

N. S. Govender, E. Al-Johani, J. Miranda, R. Balasubramanian, S. B. Mamilla (Saudi Arabia)

CHEM-P-023

Sustainable synthesis of silicon precursors coupled with hydrogen delivery based on circular economy via cobalt-based catalyst

Silvia Gutiérrez-Tarriño[1], Sergio Rojas-Buzo[1,2], Manuel A. Ortuño[1], Pascual Oña-Burgos[1] ([1]Spain, [2]Italy)

CHEM-P-024

Utilizing water-catalyst interactions to stabilize the transition state during alkane dehydrogenation

J.P. Haven, L. Lefferts, J. A. F. Albanese (Netherlands)

Intermetallic compounds in catalysis

INMC-P-001

Mars-van-Krevelen mechanism revealed for methanol steam reforming over intermetallic in-Pt/In_2O_3

M. Armbrüster, N. Köwitsch, L. Thoni, B. Klemmed, A. Benad, P. Paciok, M. Heggen, A. Eychmüller (Germany)

INMC-P-002

Synthesis of intermetallic Ni-Zn and Ni-Te nanoparticles by the vapour-solid synthesis approach for heterogeneous catalysis

D. Garstenauer, K. W. Richter (Austria)

INMC-P-003

Ruthenium single atom on intermetallic Pd_3Pb nanowires for highly efficient hydrogen evolution reaction

D. T. Lestarini, O. Suh, J. W. Hong (South Korea)

INMC-P-004

Ga-Sb-Pd intermetallic compounds as catalysts for the semi-hydrogenation of acetylene

K. Sivakumar, Y. Grin, M. Armbrüster (Germany)

Catalytic technologies for liquid or solid waste reduction or purification

PUR-P-001

Insights into the removal of antibiotics from water and wastewater by a laccase-mediator system

P. M. Álvarez[1], A. M. Chávez[1,2], E. Rodríguez[1], I. Rodríguez[1], M. A. Figueredo[1] ([1]Spain, [2]Portugal)

PUR-P-002

Utilisation of in situ generated H_2O_2 for greywater remediation

B. Bayntun, T. Richards, R. J. Lewis, G. J. Hutchings (United Kingdom)

PUR-P-003

Heterogeneously SnPd-catalysed nitrate and nitrite reduction in aqueous solution

J. Betting, L. Lefferts, J. A. Faria (Netherlands)

PUR-P-004

Recycling of end-of-life long-chain polyamides via an ammonolytic hydrogenation process

R. Coeck, A. De Bruyne, D. De Vos (Belgium)

PUR-P-005

Production of low-chlorine oil through catalytic pyrolysis of solid recovered fuels (SRF) over ZSM-5, Beta and USY zeolites

J. Cueto, G. Pérez, M. Paniagua, G. Morales, J. A. Melero, D. P. Serrano (Spain)

PUR-P-006

Systemic expansion of territorial circular ecosystems for end-of-life foam

T. G. W. Engels, P.J. Deus, H.J. Heeres (Netherlands)

PUR-P-007

The oxidative degradation of phenol via in situ H_2O_2 synthesis using Pd-supported Fe-modified ZSM-5 catalysts

L. J. Fisher, A. Santos, R. J. Lewis, D. J. Morgan, T. E. Davies, E. Hampton, P. Gaskin, G. J. Hutchings (United Kingdom)

PUR-P-008

Wet peroxide oxidation of paracetamol: Overview of typical catalysts

F. F. Roman[1], A. Santos Silva[1], A. P. F. da Silva[1], J. L. Diaz de Tuesta[2], M.Kalmakhanova[3],D. Snow[4], **H. T. Gomes**[1] ([1]Portugal, [2]Spain, [3]Kazakhstan, [4]USA)

PUR-P-009

Influence of bicarbonate, other anions and carbon dioxide in the activity of Pd-Cu catalysts for nitrate reduction in drinking water

D. T. González, J. A. Baeza, L. Calvo, M. A. Gilarranz (Spain)

PUR-P-010

Continuous catalytic integrated treatment for organic and inorganic species abatement

A. Sofia G. G. Santos, A. Rita. L. Ribeiro, J. Restivo, C. A. Orge, M. Fernando R. Pereira , O. Salomé G. P. Soares (Portugal)

PUR-P-011

Development of one-pot synthesized Ti-SBA-15 catalyst for oxidative desulfurization in advanced biodiesel upgrading

A. Guntida, J. Apariccio, F. Maugé, K. Thomas (France)

PUR-P-012

Full catalytic dehalogenation of brominated flame retardants

Gj. Hulaj, S. Windels, B. Krasniqi, D. De Vos (Belgium)

PUR-P-013

Plastic waste recycling via zeolite-based hydrocracking

L. Chen, N. Michailidou, L. Radloff, S. Winiesdorffer, M. Geske, M. Al-Naji, M. Bender and F. Rosowski (Germany)

PUR-P-014

Three-stage pyrolysis-catalysis of polyolefins over MFI and Ni-MFI catalysts for BTEX and syngas production

Am. Inayat[1], K. Klemencova[1], Ai. Inayat[2], P. Lestinsky[1] ([1]Czechia, [2]Germany)

PUR-P-015

Enhanced production and control of liquid alkanes in the hydrogenolysis of polypropylene over shaped Ru/CeO_2 catalysts

A. Tomer, M. M Islam, M. Bahri, **D. R. Inns**, T. D Manning, J. B Claridge, N.D Browning, C R. A Catlow, A. Roldan, A.P Katsoulidis, M. J Rosseinsky (United Kingdom)

PUR-P-016

Magnetic $MnFe_2O_4$/PILCs for removal of methylene blue by catalytic wet peroxide oxidation

Zh. A. Baimuratova[1,2], A.S. Silva[1], J. L. D. de Tuesta[1,3], H.T. Gomes[1], **M. S. Kalmakhanova**[2] ([1]Portugal, [2]Kazakhstan, [3]Spain)

PUR-P-017

Systematic screening of conventional and hierarchical zeolites for the catalytic conversion of end-of-life tyre pyrolysis vapours to aromatics

S..D. Stefanidis, **S. A. Karakoulia** , E. Pachatouridou, E. Heracleous, A. A. Lappas (Greece)

PUR-P-018

Decomposition of an azo dye by an advanced oxidation process using innovative surface-functionalised PAN fibre catalyst

M. Kocijan [1], S. Rashid [2], K. Huddersman [2] ([1]Croatia, [2]United Kingdom)

PUR-P-019

Direct conversion of glycerol into glycidol in a gas-phase packed-bed reactor over caesium-treated ZSM-5 catalysts

A. Kostyniuk, D. Bajec, B. Likozar (Slovenia)

PUR-P-020

Rare-earth metal oxides nano-dispersed onto ligno-humic-like support derived from sewage sludge for waste wates treatment

V. La Parola, R. Comparelli, M.L. Curri, M. Dell'Edera, L. di Bitonto C. Pastore, L. F. Liotta (Italy)

PUR-P-021

Catalytic upgrading of waste plastic pyrolysis oil

V.-L. Yfanti, H. Zoupidis, A. Margellou, K. Triantafyllidis, **A. A. Lemonidou** (Greece)

PUR-P-022

The degradation of phenol via in situ H_2O_2 production over supported Pd-based catalysts

R. J. Li, A. Santos, R. J. Lewis, D. J. Morgan, T. E. Davies, and G. J. Hutchings (United Kingdom)

PUR-P-023

Non-thermal-plasma assisted degradation of perfluorooctanoic acid

J. Paul Guin, N. Gurrin, **D. Molloy**, J.A. Sullivan (Ireland)

PUR-P-024

TiO2 coating on PET nonwovens by dip-coating for photocatalytic effects

Park J. J., L. D. Kyu, P. J. Won, L. S. Goo (South Korea)

PUR-P-025

Catalytic pyrolysis can offer a means to upcycle micro/nano plastics released from synthetic fibres during laundering

S. Parrilla-Lahoz[1], M. C. Zambrano[2], V. Stolojan[1], R. Bance-Soualhi[1], J. J. Pawlak[2], R. A. Venditti[2], T.R. Reina[1,3], M. S. Duyar[1] ([1]United Kingdom, [2]USA, [3]Spain)

PUR-P-026

Catalytic hydrogenation of water pollutants by platinum metal catalysts

A. Plá-Hernández, A.E. P. Gimeno, F. Rey (Spain)

PUR-P-027

Microwave-hydrothermal assisted synthesis of $ZnFe_2O_4$/RGO nanocomposites for the removal of organic pollutants from wastewater

Kun-Yauh Shih, En-Rui Wang (Taiwan)

PUR-P-028

Catalytic pyrolysis of single-use plastic waste over hierarchical zeolite to obtain fuel grade hydrocarbons

Subhashini, T. Mondal (India)

PUR-P-029

The influence of ferrocene anchoring method on the reactivity and stability of SBA-15-based catalysts in degradation of ciprofloxacin via photo-Fenton process

A. Walkowiak, L. Wolski, M. Ziolek (Poland)

PUR-P-030

Valorization of waste materials resulting from the chemical conversion of biomass using tailormade polyoxometalate catalysts

A. Wassenberg, T. Esser, M. J. Poller, J. Albert (Germany)

PUR-P-031

Ion Exchange and Dealumination of Large Faujasite Crystals

Y. Ganjkhanlou, S. Rejman, J. Heesakkers, J. V. Emst, W.C. Versluis, J.M. Dorresteijn, I. Vollmer, E.T.C. Vogt, **B.M. Weckhuysen**, F. Meirer (Netherlands)

PUR-P-032

The detoxification and revalorisation of plastic-waste extracted phthalate plasticizers into safe alternatives

S. Windels, W. Stuyck, D. E. De Vos (Belgium)

Refining and petrochemistry

REF-P-001

Unexpected formation of aromatics from ethylene conversion on non-zeolitic Ni catalysts

M. Armbruster, U. Bentrup, H. Atia, D. Linke, U. Rodemerck (Germany)

REF-P-002

Methane dehydroaromatization over Mo/WO3-ZrO2 catalysts

J. D. Manosalvas Mora, A. K. M. Kazi Aurnob, A. Abedin, J. J. Spivey (United States)

REF-P-003

Minimizing rare earth content of FCC catalysts: Understanding the fundamentals on combined P-La stabilization

C. Martínez[1], A. Vidal-Moya[1], B. Yilmaz[2], C. P. Kelkar[2], A. Corma[1] ([1]Spain, [2]USA)

REF-P-004

The effect of the support pore structure on the oxidative desulphurization of dibenzothiophene

A. Nurwita, M. Trejda (Poland)

REF-P-005

Investigation of induction period and oxygen species of chromium oxide catalyst for fluidized dehydrogenation of propane

H. Park, W.C. Choi, Y.K. Park, D.S. Park (South Korea)

REF-P-006

Kinetic modeling of oxidative coupling of methane over Na_2WO_4 catalyst with various promoters

Y. Woo[1], Y. Jung[1], S. K. Kim[1,2], Jeong-Myeong Ha[3,4], M.-J. Park[1,] (South Korea)

REF-P-007

Increased stability and activity of Mo/HZSM-5 for methane dehydroaromatization via Nb doping

S. Peters, A. de Oliveira Guilherme Buzanich, S. Wohlrab, A. M. Abdel-Mageed (Germany)

REF-P-008

Effect of hydrocracked vacuum distillate addition on FCC yields

M. Pšenička (Czechia)

REF-P-009

Influence of electrochemical properties on the catalytic performance of doped NiO catalysts for the oxidative dehydrogenation of ethane

A. de Arriba, J. M. López Nieto, A. Dejoz, F. Llopis, Pablo J. Miguel, V. González-Alfaro, R. M. Fernández-Domene, R. Sánchez-Tovar, **B. Solsona** (Spain)

REF-P-010

A Self-Combustion-Depolymerization approach to activate Solid-Waste coal gangue minerals for fluid catalytic cracking catalyst synthesis

Y. Song, R. Wang, X. Yang, W. Lin (China)

REF-P-011

Trail of sulfur during the desulfurization via reactive adsorption on Ni/ZnO

Y. Song, B. Peng, W. Lin (China)

REF-P-012

Naphtalene-rich industrial aromatic oils as alternative liquid hydrogen carriers: hydrogenation studies

P. Rapado-Gallego, **E. Díaz**, J.I. Fidalgo-Martínez, E. Sánchez-Cortezón, S. Ordóñez (Spain)

REF-P-013

Application of AI-based models integrated with Ensemble ML paradigms for simulating light olefins yield in crude-to-chemicals conversion

A. Tanimu[1], A. G. Usman[2], H. Alasiri[1], A. Aitani[1] ([1]Saudi Arabia, [2]Turkey)

REF-P-015

Investigating mode switches in a hydrotreater through mathematical modelling

J. V. Björkman, T. Belkheiri, L. J. Pettersson, E. Kantarelis (Sweden)

REF-P-016

High Pressure Ring Opening using supported NiWMo catalysts

C. Gross, R. Khare, J. A. Lercher (Germany)

REF-P-017

Ligand-free Cr-catalyzed ethylene dimerization in an ionic liquid-organic solvent biphasic system with 100% 1-butene selectivity

N. T. K. Chau, H. J. Lee, M. Lee, **Y.-M. Chung** (South Korea)

REF-P-018

Synthesis of a high-octane gasoline additive on catalytically „Intelligent systems“

K. Kadirbekov, O. Yugay, A. Serebryanskaya, G. Abdiyusupov, S. Zholdybaev, E. Tusipkaliev (Kazakhstan)

REF-P-019

Aromatic admixture effect on alkane hydrocracking over Pt/HUSY

N. Korica[1], B. A. Canudo[1], P.S.F. Mendes[1,2], J. De Clercq[1], **J. W. Thybaut**[1] ([1]Belgium, [2]Portugal)

REF-P-020

Supported iron nanoparticles as sustainable catalysts for the selective acetylene hydrogenation unter industrial front-end conditions

H. Lamers, M. Lucas, M. Rose (Germany)

REF-P-021

Synergistic shape selectivity of H-Beta and H-ZSM-5 in heavy aromatics hydrocracking for xylene-rich BTX

J. Oh, **J. K. Lee** (South Korea)

REF-P-022

The conversion of aliphatic hydrocarbons to aromatics over HZSM-5 zeolite catalysts

P. Lestinsky, K. Klemencova, B. Grycova, A. Inayat (Czechia)

REF-P-023

Light olefins production with high and flexible selectivity by catalysis integrated electrified process

YN. Kim, CM. Jung, DH. Lee (South Korea)

REF-P-024

Turquoise H2 and carbon production through CH4 cracking

A. Batistini, **V. Cosentino**, G. Iaquaniello, E. Palo, B. De Caprariis, P. De Filippis (Rome, Italy)

18:00 – 20:00 Poster session 2

Biomass to chemicals and fuels

BIO-P-001

Unravelling the mechanism of selective oxidation of biomass-derived model compounds using TiO_2/g-C_3N_4/CdS heterojunction photocatalyst

D. Aboagye, R. Djellabi, F. Medina, S. Contreras (Spain)

BIO-P-002

Supported bimetallic (Ni/Cu) nanoparticles catalysts for the thermal hydrogenolysis of lignin model compounds

R. Abolivier, J. A. Sullivan (Ireland)

BIO-P-003

Catalytic Upgrading of Bio-Based 5-hydroxymethylfurfural to bio-based chemicals

A. Achour, H. Ojagh, H. P. Ho, D. Creaser, J. Holmberg, O. Pajalic, L. Olsson (Sweden)

BIO-P-004

Biomass/Plastic Catalytic Co-hydropyrolysis: Influence of Ni supported over C-Al_2O_3 derived from MIL-53 (Al)

C. A. Romero-Unda, K. J. Fernández-Andrade, **S. Alejandro-Martín** (Chile)

BIO-P-005

Multifunctional heterogenous catalysts for HMF hydrogenation

B. Amin, J. Aubrecht, A. Smirnov, D. Kubička (Czechia)

BIO-P-006

Ru/C solid foam catalysts for production of sugar alcohols: From catalyst development to kinetic modelling

G. Araujo-Barahona[1,2], A. Goicoechea-Torres[1,2], K. Eränen[1], G. García-Serna[2], D. Murzin[1], T. Salmi[1] ([1]Finland, [2]Spain)

BIO-P-007

On the role of Pt oxidation state in the electrocatalytic dehydrogenation and oxidation of glucose

M. van der Ham, E. van Keulen, M. Koper, **A. A. Tashvigh**, H. Bitter (Netherlands)

BIO-P-008

Hydrogenation of biomass-based levulinic acid to γ-Valerolactone using supported NiP catalysts

H. Atia, R. Eckelt, U. Armbruster, S. Wohlrab, A. Springer, J. Koechermann, M. Klemm (Germany)

BIO-P-009

Modified SBA-15 materials for the valorization of biomass-derived compounds

J. Aubrecht, B. Amin, O. Kikhtyanin, D. Kubička (Czechia)

BIO-P-010

Taking off with furfural: Transforming biomass into biojet fuel

R. Baldenhofer, J. Lange , S. Kersten, M. P. Ruiz (Netherlands)

BIO-P-011

Catalytic transfer hydrogenation of biomass-based furfural over copper catalyst

D. Banerjee[1,2], A. K. Sahu[1], J. K. Clegg[2], S. Upadhyayula[1] ([1]India, [2]Australia)

BIO-P-012

Oxidative conversion of lignosulphonates into vanillin with a copper–cobalt catalyst

S. Bekirovska, O. Abdelaziz, C. Hulteberg (Sweden)

BIO-P-013

The Effect of L-Histidine on enhancement the fluorescence of Carbon Dots (CD) from zingiber montanum for antibacterial and latent fingerprint detection

D. Nugroho, S. Nanan, P. Karittapattawan, S. Chanthai, **R. Benchawattananon** (Thailand)

BIO-P-014

The effect of calcium-based catalysts on deoxygenation of furfural in the production of biomass-derived marine fuels

M. Böhme, P. A. Jensen, M. Z. Stummann, M. Høj, A. D. Jensen (Denmark)

BIO-P-015

Pyrolysis and hydrotreatment of Kraft Lignin: Cu-based catalyst for pyrolytic oil hydrodeoxygenation

M. Borella[1,2], M. A. Palazzolo[2], H. H. van de Bovenkamp[2], P.J. Deuss[2] , A. A. Casazza[1], G. Garbarino[1], G. Busca[1] ([1]Italy, [2]Netherlands)

BIO-P-016

Development of Ni-Mo catalysts supported on silica for the transformation of residual fatty raw materials into green diesel

J. Zafeiropoulos, G. Petropoulos, E. Kordouli, C. Kordulis, A. Lycourghiotis, **K. Bourikas** (Greece)

BIO-P-017

Influence of natural mordenite activation mode on its efficiency as support of nickel catalysts for biodiesel upgrading to renewable diesel

K. Fani, S. Lycourghiotis, **K. Bourikas**, E. Kordouli (Greece)

BIO-P-018

Promoted nickel catalysts supported on palygorskite for green diesel production

K. Fani, S. Lycourghiotis, E. Kordouli, C. Kordulis, **K. Bourikas** (Greece)

BIO-P-019

Synthesis of ion-exchange-resins-based bifunctional catalysts for MIBK one-pot production

E. Canadell, J.H. Badia, R. Soto, **R. Bringué**, E. Ramírez, J. Tejero (Spain)

BIO-P-020

Hydrogenation of 4-(2-furyl)-3-buten-2-one to jet-fuel precursors using hydrotalcites

C. C. Díaz[1], A. B. Dongil[2], N. Escalona[1] ([1]Chile, [2]Spain)

BIO-P-021

Selective H_2 production from formic acid decomposition over Re and Mo supported catalysts

C. C. Díaz[1], N. Escalona[1], I. Rodríguez-Ramos[2], A. B. Dongil[2] ([1]Chile, [2]Spain)

BIO-P-022

Epoxidation of tall oil in presence of heterogeneous catalysts

T. Cogliano[1,2], A. Desgouliere[1,3], W. Y. Perez-Sena[1], K. Eränen[1], V. Russo[1,2], L. Pirault-Roy[3] , T. Salmi[1] ([1]Finland, [2]Italy, [3]France)

BIO-P-023

One-pot method of production carboxylic acids from hemicellulose-derived mixture of sugars over Na-BEA zeolite

N. Sobuś, **I.Czekaj** (Poland)

BIO-P-024

One pot glycerol valorization of glycerol into acrylic acid: a catalytic and spectroscopic study

A. De Arriba, D. Delgado, P. Concepción, J. M. L. Nieto (Spain)

BIO-P-025

Efficient two-step production of biobased plasticizers: Dehydration-hydrogenation of citric acid followed by Fischer esterification

A. De Bruyne, W. Stuyck, W. Deleu, J. Leinders, C. Marquez, K. Janssens, D. Sakellariou, R.Ghillebert, D. E. De Vos (Belgium)

BIO-P-026

An innovative catalytic pathway for the synthesis of acyl furanics: the cross-ketonization of methyl 2-furoate with carboxylic acids

J. De Maron, D. Cesari, T. Tabanelli, A. Fasolini, F. Basile, F. Cavani (Italy)

BIO-P-027

Catalytic valorisation of furans to aromatics over modified zeolites

G. J. L. de Reijer, A. Schaefer, A. Hellman, P.A. Carlsson (Sweden)

BIO-P-028

Promotion effect of $KHCO_3$ on palladium hydride catalyzed decarboxylation of aryl-aliphatic acid

F. Deng[1], R. Zhao[1], A. Jentys[1], Y. Liu[1], J. A. Lercher[1,2] ([1]Germany, [2]USA)

BIO-P-029

Lignocellulose to ethylene glycol: Catalyst poisoning

J. -P. Lange, T. D.J. te Molder, S. R. A. Kersten, M. P. Ruiz, **R. Di Sabatino** (Netherlands)

BIO-P-030

Triacylglycerides to marine and jet biofuel via hydrotreating

A. Dimitriadis, V. Vasdekis, C. Kekes, S. Bezergianni (Greece)

BIO-P-031

Copper-cobalt ferrites supported on carbon-containing porous matrices as catalysts for syngas production from methanol

M. Dimitrov[1], G. Issa[1], S.P. Marinov[1], N. Velinov[1], B. Tsyntsarski[1], D. Kovacheva[1], J. Tolasz[2], J. Henych[2] ([1]Bulgaria, [2]Czechia)

BIO-P-032

Selective dehydration of xylose catalyzed by metallic mixed oxides

F. Cernicharo-Toledo, A. De Arribas, J. M. López-Nieto, **M. E. Domine** (Spain)

BIO-P-033

Hydrogen production through aqueous phase reforming of ethanol using molybdenum carbide catalysts supported on zirconium

C. Pavesi[1], E. Blanco[1], C. Pazo[1], A.B. Dongil[2], **N. Escalona**[1] ([1]Chile, [2]Spain)

BIO-P-034

Inprovement of biocrude quality by HTL - catalytic assisted process

C. Moreira-Mendoza[1,2], **S. Essounani**[1], S. Molina-Ramírez[1], M. Cortés-Reyes[1], C. Herrera[1], M. A. Larrubia[1], L. J. Alemany[1] ([1]Spain, [2]Ecuador)

BIO-P-035

Selective hydrogenation with Ru nanoparticles immobilized on aluminium phosphate-based supported ionic liquid phase catalysts

W. Fang[1], Y. Zhang[2], A. Bordet[2], A. Riisager[1], W. Leitner[2] ([1]Denmark, [2]Germany)

BIO-P-036

Enhancing the bio-oil conversion using open cell foam structured catalytic reactors

E. Farah, E. Kantarelis (Sweden)

BIO-P-037

Direct production of 1,3-Butadiene from 1,3-Butanediol Dehydration

G. Fayad, E. Makshina, L. Eloi, B. Lagrain, A. Verberckmoes, B. Sels (Belgium)

BIO-P-038

Catalytic transfer hydrogenation of maleic acid to succinic acid on Pd/C catalysts using formic acid: a structure sensitive reaction

V. A. Francés, A. Orozco-Saumell, P. Maireles-Torres, F. Vila, D. M. Alonso, R. Mariscal, M. L. Granados (Spain)

BIO-P-039

Depolymerization of cellulose in lithium bromide solution promoted by heterogeneous acid catalysts

M. F. Paiva[1], R. Wojcieszak[1], G. Vanhove[1], F. B. Noronha[1,2] ([1]France, [2]Brazil)

BIO-P-040

Aqueous phase hydrogenolysis of glycerol over Ni-Cu/Al catalysts with in-situ produced hydrogen

D. Gallego-García, M. Laria-Alonso, U. Iriarte-Velasco, M. A. Gutiérrez-Ortíz, J. L. Ayastuy (Spain)

BIO-P-04

Engineering the surface configuration of AgPd alloy catalysts for highly selective oxidation of 5-hydroxymethyl-furfural at room temperature

Y. Jin, H. –Y. Zhu (Australia)

BIO-P-042

Hydrogen-driven deoxydehydration of vicinal diol compounds over anatase-titania-supported molybdate-copper catalyst

J. X. Gan, Y. Nakagawa, M. Yabushita[1], K. Tomishige (Japan)

BIO-P-043

Zeolite catalysts for the (bio)ethanol to (bio)hydrocarbons process

G. Busca, E. Spennati, E. Finocchio, P. Riani, **G. Garbarino** (Italy)

BIO-P-044

Sequential hydwrogenolysis and guerbet reaction of bio-carboxylic acids to plasticizer alcohols (C8-C12) over dual-functional heterogeneous catalysts

M. N. Gebresillase, Jeong Gil Seo (South Korea)

BIO-P-045

Assessing acid – base cooperativity of layered oxides for biomass conversion

L. Giloni, B. Cohen, D. Shpasser, E. Gross, and O. Gazit (Israel)

BIO-P-046

Ni/Al_2O_3-ZrO_2 catalyst for co-pyrolysis of lignocellulosic biomass and waste plastic to hydrogen-rich gas

M. Jędrzejczyk, A. Podlaska, **J. Grams** (Poland)

BIO-P-047

Arabinose oxidation on gold based extrudates catalyst

M. Hachhach[1], I. Simakova[2], K. Eränen[1], D. Murzin[1], T. Salmi[1] (Finland, Russia)

BIO-P-048

Mixed oxides as heterogenous catalyst for transesterification and Guerbet reaction

M. Hájek, K. Frolich, J. Kocík, D. Kocián, J. Malina (Czechia)

BIO-P-049

Efficient heterogenous sonocatalysis by porous heteroatom-doped carbons in selective oxidation and C-C coupling of syringic alcohol

B. H. Hosseini, D. Lomot, R. L. Oliveira, J. C. Colmenares (Poland)

BIO-P-050

Ruthenium catalysts for the efficient conversion of 5 HMF into DFF to produce phenolic resins

F. Heck[1], I. Gräf[1], H. Spod[1], C. Derflinger[2], B. Kamm[2] ([1]Germany, [2]Austria)

BIO-P-051

Hydrogenation of furfural on pure and substituted perovskites as precursor catalysts

K. Lara, G. Pecchi, C. Sepúlveda, **C. Herrera** (Chile)

BIO-P-052

Carbon supported heteropolyacids as recyclable solid acid catalysts for the hydrolysis of xylan

L. Hombach[1], N. Hausen[1], A. G. Manjón[2], M. Rose[1], J. Albert[1], A. K. Beine[1] ([1]Germany, [2]Spain)

BIO-P-053

Preparation of biodiesel from spent coffee ground over hydrotalcites

M. Horňáček, M. Mališová, A. Peller (Slovakia)

BIO-P-054

Sustainable production of acrylic acid using renewable waste glycerol

L. Forster[1], V. Spallina[1], C. D'Agostino[1,2], **M. Hu**[1] ([1]UK, [2]Italy)

BIO-P-055

Selective hydrogenolysis of glucose to propylene glycol over Metal-WO_x/Al_2O_3 catalysts

A. Hübner, M. Lucas, M. Rose (Germany)

BIO-P-056

Hydrodeoxygenation of model fatty acid compounds of microalgae oils by Ni catalysts supported on micro/mesoporous aluminosilicates

G. Iakovou, A. Margellou, K. S. Triantafyllidis (Greece)

BIO-P-057

Photocatalytic chemoselective cleavage of C-O bonds over palladium loaded titanium(IV) oxide

K. Imamura, H. Kato, Y. Wada, K. Makabe, A. Onda, A. Tanaka, H. Kominami, K. Sato, K. Nagaoka (Japan)

BIO-P-058

Catalytic dehydration of model xylose and real biomass pretreament hemicellulose streams towards furfural enriched products

S. P. Ioannidou, A. G. Margellou, A. Anukam, L. Matsakas, U. Rova, P. Christakopoulos, K. S. Triantafyllidis (Greece)

BIO-P-059

Hydrothermal stearic acid deoxygenation over (1% wt. Pd)-supported (C, SiO_2, Al_2O_3 or Nb_2O_5) catalysts

K. M. de Souza, C. A. B. Crisóstomo, M. C. F. Ávila, **R. R. Soares** (Brazil)

BIO-P-060

Selective hydrogenation of polyenes in biomass-derived cardanol over the trimetallic Ni-Co-Cu catalyst supported on morphologically controlled alumina

J. Ding, Z. S. Xu, H. J. Fang, X. Z. Feng, **W. J. Ji** (China)

BIO-P-061

Cobalt porphyrin-based catalyst for the furfural conversion to succinic acid

A. Kaiprathu, S. Nishimura (Japan)

BIO-P-062

Microkinetic modeling guided catalyst design for hydrodeoxygenation of bio-oil

D. R. Kanchan, A. Banerjee (India)

BIO-P-063

Effect of zeolite framework on the efficiency of implanted Ti active sites for methyl oleate epoxidation

S. Klinyod, T. Sooknoi, C. Wattanakit (Thailand)

BIO-P-064

Production of biomass-derived polyalphaolefin-grade lubricant through aldol condensation reactions

S. H. Ko, D. K. Mishra, Y. -W. Suh (South Korea)

BIO-P-065

The role of the mixed oxides based catalysts in the production of higher alcohol and acetates from ethanol

J. Kocík, Z. Tišler, J. Mück, K. Frolich, M. Hájek (Czechia)

BIO-P-066

Composition-dependent activity of bimetallic PdIrX/carbon catalysts in furfural conversion via competitive hydrogenation and acetalization

R. Kosydar, E. Lalik, K. Samson, D. Duraczyńska, J. Gurgul, T. Szumełda, A. Drelinkiewicz (Poland)

BIO-P-067

Catalyst screening for stabilization of pyrolysis oil before catalytic hydrodeoxygenation into renewable hydrocarbon fuels

A. P. Krebs[1], R. P. Cruz[2], A. Søgaard[1], M. Høj[1], M. Z. Stummann[1], M. Brorson[1], L. Y. Lemus-Olsen[1], A. D. Jensen[1*] ([1]Denmark, [2]Portugal)

BIO-P-068

Promoting effect of Ce and La on Ni-Mo/δ-Al_2O_3 catalysts in the hydrodeoxygenation of vanillin

T. Kristensen, C. Hulteberg, O. Abdelaziz, S. Blomberg (Sweden)

BIO-P-069

Microwave-assisted synthesis of 5-ethoxymethyfurfural from carbohydrate feedstock using functionalized silica catalyst

N. Kushwaha, A. Modak, E. Ahmad, K. K. Pant (India)

BIO-P-070

Direct conversion of glucose to HMF Using MOFS and polyoxometalate acids

M. Lara-Serrano[1], S. Morales-delaRosa[1], J. M. Campos-Martin[1], V. K. Abdelkader-Fernández[2], L. Cunha-Silva[2], S. S. Balula[2] ([1]Portugal, [2]Spain)

BIO-P-071

Bio-Isobutanol Conversion into Butene Isomers over FER, MFI, FAU and BEA Zeolites: Effect of Zeolite Structural Type on Catalyst Activity and Process Selectivity

O. V. Zikrata[1], **O. V. Larina[1]**, M. Vorokhta[2] I. Khalakhan[2], Yu. M. Nychiporuk[1], D. Yu. Balakin[1,2], M. Švegovec[3], J. Volavšek[3], S. O. Soloviev[1] ([1]Ukraine, [2]Czechia, [3]Slovenia)

BIO-P-072

Catalytic Co-pyrolysis of beech wood and Polyamide-6

W. de R. Locatel, C. Mohabeer, **D. Laurenti**, Y. Schuurman, N. Guilhaume (France)

BIO-P-073

Catalytic depolymerization of γ-valerolactone organosolv processed lignin

S. Kasipandi, S. Rautiainen, S. Känsäkoski, T. Ohra-aho, J. Lehtonen (Finland)

BIO-P-074

Maximizing sustainable aviation fuel production through optimized hydroprocessing of bio-oils

K. H. L. Lejre, J. Gabrielsen, M. Z. Stummann (Denmark)

BIO-P-075

Reductive Amination of 5-Hydroxymethyl-2-furaldehyde catalyzed by Supported Ni-Co Bimetallic Catalysts

X. Li, S. Nishimura (Japan)

BIO-P-076

Enzymatic hydrolysis lignin dissolution and low-temperature solvolysis in ethylene glycol

Y. Sang, Y. Li (Finland)

BIO-P-077

Co-pyrolysis of biomass and plastic to produce high-quality liquid

Z. Li, K. Rajendran, D. Chen (Norway)

BIO-P-078

Ru/C and Ru/TiO_2 catalysts to produce Y-Valerolactone from levulinc acid under mild conditions

Z. Ruiz-Bernal**, M. A. Lillo-Ródenas**, M. C. Román-Martínez (Spain)

BIO-P-079

Syngas conversion to oxygenates over Co_2C and Co-Co_2C catalysts: CO insertion mechanism

Y. Yao, J. Chang, Y. Zhang, N. C. Shiba, X. Liu (South Africa)

BIO-P-080

The dehydrogenation and dehydration of isopropanol on the $SrTiO_3$ perovskite: A periodic DFT study

I. Lizana, G. Bernales, G. Pecchi, E. J. Delgado (Chile)

BIO-P-081

Investigation of metal molybdate catalysts for the hydrodeoxygenation of anisole

S. Löbner, S. Haida, C. Kubis, A. Brückner, A. Abdel-Mageed (Germany)

BIO-P-082

Steam Reforming of Bio-Syngas Hydrocarbon Impurities with Ni-Co/Mg(Al)O Catalysts – Operating Parameter Effects

A. Lysne, I. Saxrud, K. Ø. Madsen, E. A. Blekkan (Norway)

BIO-P-083

Catalytic hydrodeoxygenation of lignin oil for biofuel production

H. Ma, W. Zhang, D. Chen (Norway)

BIO-P-084

Synthesis of nickel-hierarchical zeolite nanosheet composites derived from layered double hydroxides for furfural hydrogenation

N. Maineawklang, S. Salakhum, P. Pornsetmetakul, A. Prasertsab, S. Tantisriyanurak, C. Roadum, C. Wattanakit (Thailand)

BIO-P-085

Gas phase hydroconversion of furfural catalyzed by nanostructured Pt/carbon/metal oxide xerogels

J. R. Rensch, S. Morales-Torres, L. M. Pastrana-Martínez, **F. J. Maldonado-Hódar** (Spain)

BIO-P-086

Aqueous reduction of biomass-derived oxygenated compounds by magnetically induced catalysis

C. Cerezo-Navarrete[1], I. M. Marin[2], A. Corma[1], B. Chaudret[2], **L. M. Martínez-Prieto**[1] ([1]Spain, [2]France)

BIO-P-087

1,5-Pentanediol production from biomass derived dihydropyran

I. Martínez-Salazar, D. M. Alonso, M. L. Granados, R. Mariscal (Spain)

BIO-P-088

Hydrodeoxygenation of isoeugenol to produce renewable jet fuel using bifunctional catalysts

M. Martínez-Klimov, P. Mäki-Arvela, Z. Vajglová, C. Schmidt, O. Yevdokimova, N. Kumar, K. Eränen, D. Yu. Murzin (Finland)

BIO-P-089

Production of advanced biodiesel from animal wastes using supercritical conditions

J. Martínez-Triguero, J. D. Vidal, S. Valencia, A. Chica (Spain)

BIO-P-090

Organometallic approached NiCo Nanoparticles for the Magnetically Induced Valorization of Lignin-based materials

J. Mazarío[1], I. Mustieles-Marín[1], C. W. Lopes[2], G. Mencia[1], G. Agostini[3], P. F. Fazzini[1], N. Ratel-Ramond[1], B. Chaudret[1] ([1]France, [2]Brazil, [3]Spain)

BIO-P-091

Preparation and stability of catalysts for hydrodeoxygenation of black liquor HTL-oil

Luděk Meca[1], Alexey Kurlov[2], Pavel Kukula[1], David Baudouin[2] ([1]Czechia, [2]Switzerland)

BIO-P-092

Hydrodeoxygenation of anisole over Pd/TiO_2 catalyst: pressure-dependent reaction pathways

A. M. i Rovira, K. Ranjerdan, P. Tingelstad, D. Chen (Norway)

BIO-P-093

Dehydrogenation of 1,4-butanediol over cobalt aluminate synthesized by the sol-gel method, in the presence of different solvents

G. Mitran[1], D.-K. Seo[2], O. D. Pavel[1], F. Neaţu[1], M. Florea[1] ([1]Romania, [2]USA)

BIO-P-094

Tuning the interfaces of promoted nickel catalyst for hydrodeoxygenation of palm oil towards biodiesel production

M. Mohammed, S. Alkhoori, D. Anjum, M.A. Jaoude, D. Shetty, K. Polychronopolou (United Arab Emirates)

BIO-P-095

Stability analysis of a multi-metallic sample for steam compensated self-reforming of biogas in sulfur presence

E. Poggio-Fraccari, **S. Molina**, C. Herrera, M. A. Larrubia, L. Alemany (Spain)

BIO-P-096

Reductive catalytic fractionation of agricultural residues: the case study of Ecuadorian biomass as an attractive source of phenolic monomers

D. Montesdeoca[1,2], D. P. Debecker[1] ([1]Belgium, [2]Ecuador)

BIO-P-097

Non-precious transition metal oxide catalysts for the selective oxidation of propylene glycol

C. Moodley, M. L. Shozi, H. B. Friedrich (South Africa)

BIO-P-098

The effect of synthesis method on supported Ni-W catalysts for the hydrogenolysis of erythritol

W. M. Mthiyane, A. Govender, M. Shozi (South Africa)

BIO-P-099

Gas phase hydrogenation of crotonaldehyde using formic acid as hydrogen source over Cu and Re supported catalysts

V. Naharro[1], C. E. Aristizábal-Alzate[2], M. Romero-Saez[2], I. Rodríguez-Ramos[1], A. B. Dongil[1] ([1]Spain, [2]Colombia)

BIO-P-100

Hydrogenolysis of xylitol to diols over nickel supported on metal oxides

V. Ndabankulu, A. Govender, H. B. Friedrich, M. Shozi (South Africa)

BIO-P-101

Heterogeneous catalyst development for the hydrogenation of thermally unstable acid-sensitive esters

T. Nelis, L. P. Manker, J. S. Luterbacher (Switzerland)

BIO-P-103

Understanding the bond functionality for the cascade reaction forming C_2 and C_3 alcohols using nanowires supported catalysts

A. A. Niaze[1], A. Bharadwaj[1], S. Upadhyayula[1], M. Sunkara[2] ([1]India, [2]USA)

BIO-P-104

High durability of metal-doped Cu/ZnO/Al_2O_3 catalysts in autothermal reforming of model bio-methanol

K. Nomoto, H. Miura, T. Shishido (Japan)

BIO-P-105

Gas-phase hydrodeoxygenation of lignin-derived guaiacol and phenol on Ni catalysts using neat and phosphorous-modified g-alumina supports

G. Novodárszki[1], B. Szabó[1], R. Barthos[1], H. Solt[1], J. Valyon[1], E. Someus[1], D. Deka[2], F. Lónyi[1], M. R. Mihályi[1] (Hungary, [2]India)

BIO-P-106

Exploring the dehydrogenation behavior of biomass-derived organo-oxygen molecules over MOF and alumina supported platinum catalysts

I. Prieto, J. Gancedo, D. Ursueguía, **S. Ordóñez** (Spain)

BIO-P-107

Hydrogenation of nitrobenzene to aniline using various saccharides over titanium(IV) oxide photocatalyst

T. Oto, K. Ikeuch, Y. Sakamoto, Y. Aono, A. Onda, K. Imamura (Japan)

BIO-P-108

A Highly active and stable Ru catalyst for syngas production via glycerol dry reforming

M. Ozden, Z. Say, Y. Kocak, K. E. Ercan, A. Jalal, E. Ozensoy, A. K. Avci (Turkey)

BIO-P-109

Aqueous-phase reforming of black liquor HTL water

J. Palo, M. Reinikainen, S. Rautiainen, J. Lehtonen (Finland)

BIO-P-110

Alkaline thermal treatment of lignin for sustainable production of hydrogen with in-situ carbon capture

J. Park, W.-J. Kim (South Korea)

BIO-P-111

Fabrication of Beeswax/Polypropylene honeycomb by using additive manufacturing technique

J. Park, J. H. Kim, J. Y. Young, S. G. Lee[1] (South Korea)

BIO-P-112

Advanced PbO_2 anodes for the bio-based electrochemical conversion of furfural to maleic acid

R. Passalacqua[1], S. Abate[1], S. Perathoner[1], G. Centi[1], B. Rawls[2], B. van den Bosch[2] ([1]Italy, [2]Netherlands)

BIO-P-114

Valorization of light bio-oxygenates via ketonization and condensation: definition of reaction pathways and kinetics on TiO_2

V. Piazza, C. Gambaro, L. Lietti, A. Beretta (Italy)

BIO-P-115

Tuning selectivity in carbohydrates conversion with Lewis-acidic zeolites

Y. Boudjema, **G. Pirngruber**, M. Rivallan, E. Soyer, C. Chizallet, K. Larmier (France)

BIO-P-116

Ethanol dehydrogenation over Cu/SiO_2 catalysts prepared by sol-gel, impregnation, and deposition techniques: The effect of Ni and Zn doping

T. Pokorny[1], V. Vykoukal[1], P. Machac[1], N. Scotti[2], Z. Moravec[1], A. Styskalik[1] ([1]Czechia, [2]Italy)

BIO-P-117

Effect of pore-opened nanosized Cu-MOR zeolite in catalytic dehydrogenation of ethanol to acetaldehyde

A. Prasertsab, P. Chaipornchalerm, P. ladrat, C. Wattanakit (Thailand)

BIO-P-118

Properties and performance in transesterification of potassium catalysts on zeolite X prepared by impregnation and physical mixing

P. Tayraukham, K. Deekamwong, C. Keawkumay, J. Wittayakun, **S. Prayoonpokarach** (Thailand)

BIO-P-119

Gas phase dehydration of tetrahydrofurfuryl alcohol into dihydropyran over sol-gel Al_2O_3-TiO_2 catalysts: In-situ DRIFT reaction monitoring.

J. A. Pulido, F. Vila, D. M. Alonso, M. L. Granados, R. Mariscal (Spain)

BIO-P-120

Two-step configuration of carbon-carbon coupling and hydrodeoxygenation catalyst for the upgradation of biomass derived oxygenates

K. Rajendran, A. M. i Rovira, P. Tingelstad, K. R. Rout, D. Chen (Norway)

BIO-P-121

Catalytic pyrolysis of MDF over beta zeolite-supported platinum

M. C. Rangel, A. P. O. Oliveira, M. S. Carvalho, F. M. Mayer, C. F. Virgens (Brazil)

BIO-P-122

Perovskites-based catalysts for the production of renewable hydrogen

M. C. Rangel, G. A. dos Santos, F. A. Silva, F. M. Mayer, N. C. F. Machado (Brazil)

BIO-P-123

Hydrothermal HDO of black liquor HTL oil and HTL oil model compounds

S. Rautiainen, T. Viertiö, N. Vuorio, K. Huomo, L. Meca, P. Kukula, J. Lehtonen (Finland)

BIO-P-124

Catalytic hydrogenation/hydrogenolysis of glucose rich streams over biochar/activated carbon supported metal catalysts for the production of sorbitol and smaller diols/glycols

K. Rekos[1], A. Margellou[1], Ch. Wurzer[2], O. Mašek[2], A. Anukam[3], L. Matsakas[3], U. Rova[3], P. Christakopoulos[3], K. Triantafyllidis[1] ([1]Greece, [2]UK, [3]Sweden)

BIO-P-125

Sorbitol aqueous phase transformation using cobalt aluminate- based catalysts under H_2 and N_2 atmosphere

A. J. Reynoso[1], J. L. Ayastuy[1], U. Iriarte-Velasco[1], L. Vivier[2], C. Especel[2], M. A. Gutiérrez-Ortiz[1] ([1]Spain, [2]France)

BIO-P-126

Conversion of glucose to formic acid on VO/CNTs funtionalized catalysts

P. Rodríguez, D. Paz, C. Parra, G. Pecchi, C. Sepúlveda (Chile)

BIO-P-127

H_2 generation by the photoreforming of biomass-derivatives using TiO_2 modified with C and Cu

S. Belda-Marco, M. Bouchabou, M.A. Lillo-Ródenas, **M.C. Román-Martínez** (Spain)

BIO-P-128

Sn_xNi_y alloys supported on Ce-Zr mixed oxides for the aqueous phase reforming reaction of ethylene glycol: influence of the pH and the active metal phase on the reaction outcome

C. Rosmini[1], M. P. Urrea[2], E. Tusini[3], S. Indris[3], A. Zimina[3], J. -D. Grunwaldt[3], M. Rønning[2], M. Dimitrov[1] ([1]Bulgaria, [2]Norway, [3]Germany)

BIO-P-129

Controlled size and location of Ru nanoparticles in titania supported catalysts for selective synthesis of platform molecules from biomass

A. Ruppert[1], M. Jędrzejczyk[1], N. Keller[2] ([1]Poland, [2]France)

BIO-P-130

Continuous hydrocyclization of aqueous levulinic acid to δ-valerolactone over bifunctional $Ru/NbOPO_4$/SBA-15 catalyst under mild conditions

M. Mani[1], M. Mariyaselvakumar[1], **A. Samikannu**[1], A. B. Panda[1], L. J.Konwar[1], J.-P. Mikkola[2,3] ([1]India, [2]Sweden, [3]Finland)

BIO-P-131

On the promoting effects of cobalt and nitrogen over copper-based catalysts to produce hydrogen via methanol steam reforming

J. L. Santos, J. Gascon (Saudi Arabia)

BIO-P-132

HDO of BSFL lipid

J. Selimi[1], C. Hulteberg[1], J. Melder[2] ([1]Sweden, [2]Germany)

BIO-P-133

Oxidation of furfural to maleic acid on $LaCo_xFe_{1-x}O_3$@C catalysts

D. Díaz, C. Herrera, G. Pecchi, **C. Sepúlveda** (Chile)

BIO-P-134

Protection strategy for selective oxidative esterification of HMF-dimethylacetal to dimethylfuran-2,5-dicarboxylate

N. Sheet, N. Arai, J. J. Wiesfeld, R. Osuga, A. Fukuoka, K. Nakajima (Japan)

BIO-P-135

Interfacial oxygen vacancy over Ni/CeZrOx catalysts for ethanol steam reforming: Ni-support interaction and resistance to coking

M. Wang, A. Jamsaz, N. N. Pham, T. V. A. Hoang, **E. W. Shin** (South Korea)

BIO-P-136

Hydrogenolysis of xylitol to glycols and mono-alcohols over nickel supported on sulfated-zirconia

T. Ngwenya, A. Govender, J. Olivier, **M. Shozi** (South Africa)

BIO-P-137

Effect of iron on the dispersion of copper on alumina supported catalysts

L. Skuhrovcová, J. Kolena (Czechia)

BIO-P-138

Conversion of biomass-based fructose to organic acid over Sn-MFI and Fe-MFI

N. Sobuś, M. Piotrowski, I. Czekaj (Poland)

BIO-P-139

Advanced reactor designs for continuous pyrolysis oil conversion into renewable hydrocarbon fuels through hydrodeoxygenation catalysis

A. Søgaard, A. P. Krebs, M. Z. Stummann, M. Høj, A. D. Jensen (Denmark)

BIO-P-140

Development of continuous reaction system for catalytic dehydrogenation of biomass

D. Y. Song, J. W. Min, J. H. Kim, I. H. Song (South Korea)

BIO-P-141

Selective cellulose oxidation to formic acid in the presence of vanadium based catalysts

T. Soták, K. Fulajtárová, D. Gašparovičová, Z. Magyarová, B. Horváth (Slovakia)

BIO-P-142

Glycerol addition on liquid culture of Escherichia coli – evaluation work of microorganisms.

E. Strzelec (Poland)

BIO-P-143

Ethanol-coupling reactions over MgO, $MgO\text{-}SiO_2$, and $MgO\text{-}Al_2O_3$ catalysts: The effect of promotion by transition metal oxide

B. Szabó[1], Gy. Novodárszki[1], B. Horváth[2], E. Someus[1], D. Deka[3], J. Valyon[1], R. Barthos[1] ([1]Hungary, [2]Slovakia, [3]India)

BIO-P-144

Kinetic study on fatty alcohols synthesis by homologation of ethanol with methanol

A. Takahashi, K. Sugahara, T. Chida, K. Hiromori, N. Shibasaki-Kitakawa (Japan)

BIO-P-145

Aldol condensation of furfurals with acetone: challenges and opportunities

A. Tampieri[1,2], N. Barrabés[1], F. Medina[2], K. Föttinger[1] ([1]Austria, [2]Spain)

BIO-P-146

Utilizing Deep Eutectic Solvents (DES) for the enhanced production of 5 hydroxymethylfurfural and furfural from biomass in innovative multiphase systems

N. Thanheuser[1], J. Esteban[2], A. J. Vorholt[1], W. Leitner[1] ([1]Germany, [2]UK)

BIO-P-147

Bimetallic based catalysts for base-free oxidation of furfural: High-throughput experimentation studies

J. Thuriot-Roukos, C. P. Ferraz, S. Heyte, S. Paul, R. Wojcieszak (France)

BIO-P-148

Oxidative cleavage of vicinal diols over Fe/MFI: correlation of Fe speciation with catalytic activity

P. Treu, B. B. Sarma, J.-D. Grunwaldt, E. Saraci (Germany)

BIO-P-149

Biogas reforming on solution combustion synthesis catalysts

S. Tungatarova[1], A. Manabayeva[1], D. Murzin[2], P. Mäki-Arvela[2], T. Baizhumanova[1] ([1]Kazakhstan, [2]Finland)

BIO-P-150

Acidity efffects on the NiCu catalyzed hydrodeoxygenation of 4-(2-Furyl)-3-buten-2-one

T. Vandevyvere[1], M. K. Sabbe[1], J. W. Thybaut[1], D. Kubička[3], J. Lauwaert[1] ([1]Belgium, [2]Czechia)

BIO-P-151

Biogas reforming over Ni supported on hierarchical zeolites: The effect of biogas composition and O_2 co-feeding

A. de C. P. Guimarães, A. A. A. Silva, R. de C. C. Simões, C. A. Henriques, **L. V. Mattos** (Brazil)

BIO-P-152

Dry reforming of methane over Ni supported on desilicated ZSM-5 zeolites: The effect of alkaline treatment conditions and Si/Al ratio

L. R. F. Coelho[1], A. A.A. da Silva[1], R. C. R. Neto[1], F. B. Noronha[1,2], **L. V. Mattos**[1] ([1]Brazil, [2]France)

BIO-P-153

Comparison between the crystalline phases of ZrO_2 in methyl levulinate reduction to δ-valerolactone: a theoretical and experimental study

A. Ventimiglia, R. Bacchiocchi, N. Dimitratos, I. Rivalta, T. Tabanelli (Italy)

BIO-P-154

Synthesis of templated mesoporous sulfonic carbons for the conversion of fructose and xylose into platform molecules

J. L. Vieira, M. J. Pinzón-Cárdenas, E. A. Santos, J. M. R. Gallo (Brazil)

BIO-P-155

Bio-oil hydrotreatment with novel unsupported catalysts – from model compounds to real bio-oil feeds

T. Viertiö, J. Kihlman, N. Vuorio, S. Rautiainen, A. Reznichenko, J. Lehtonen (Finland)

BIO-P-156

Valorisation of biomass to phenolics over $Pd/NbOPO_4$

R. Jogi[1], A. Samikannu[2], P. Mäki-Arvela[1], J. Hemming[1], A. Smeds[1], C. Mukesh[2], T. A. Lestander[2], C. Xu[1], **P. Virtanen[1]**, J.-P. Mikkola[1,2] ([1]Finland, [2]Sweden)

BIO-P-157

Robust Pd/Al_2O_3 bifunctional catalyst for single reactor tandem synthesis of furan and tetrahydrofuran derivatives from furfural

M. Pera-Titus,[1,4], L. Gao[1], Z. Jiang[2], I. Miletto[3], E. Gianotti[3], E. Rebmann[2], L. Baussaron[2], F. Jiang[1], **K. Wang[4]** ([1]China, [2]France, [3]Italy, [4]UK)

BIO-P-158

Comparison of K/NaA and K/NaX on transesterification of palm oil

P. Seejandee, K. Deekamwong, N. Osakoo, S. Prayoonpokarach**, J. Wittayakun** (Thailand)

BIO-P-159

Visible-light-driven cleavage of aryl ethers in lignin under mild conditions using non-precious nanocatalysts

G. Xiao[1,3], P. Li[1], Y. Ouyang[1], Y. Zhao[1], S. Sarina[2], J. Baeyens[1], H. Su[1], H.-Y. Zhu[2] ([1]China, [2]Australia, [3]UK)

BIO-P-160

Synthesis of Jet-Fuels from Renewable Biomass through Aldol Condensation of Cyclopentanone and Furfural on Different Base Catalysts

Olha Yevdokimova[1*], Natalia Shcherban[1], Mark Martinez-Klimov[1], Irina L. Simakova[1,2], Päivi Mäki-Arvela[2], Kari Eränen[1], Dmitry Yu. Murzin[1] ([1]FInland, [2]Russia)

BIO-P-161

Alcohol dehydration on Lewis and Brønsted acid sites of tungsten-oxide based catalysts

F. Zahn, N. Pfriem, J. A. Lercher (Germany)

BIO-P-162

In-depth study of reductive catalytic fractionation of biomass towards highly functional lignin oligomers as bio-based polymer substrates

Y. Zhang, B. F. Sels (Belgium)

BIO-P-163

Conversion of lactic acid to acrylic acid over Ba-modified SBA-15

R. Zhao, J. W. Bae (South Korea)

BIO-P-164

Effect of the hydroxyapatite modification with alkaline earth elements and of the nature of the carbon support on its catalytic activity in Guerbet condensation of butan-1-ol

O.V. Zikrata[1], O.V. Larina[1], N.D. Shcherban[1], I. Khalakhan[2], K. Veltruská[2], G. Mali[3], S.O. Soloviev ([1]Ukraine, [2]Czechia, [3]Slovenia)

BIO-P-165

The kinetics of fatty acids hydrodeoxygenation

M. Žula, M. Grilc, B. Likozar (Slovenia)

BIO-P-166

Oxidative cleavage of UFAs in Palm oil with Ru carbon catalyst

S. Gámez[1], E. de la Torre[2], E. M. Gaigneaix ([1]Belgium, [2]Ecuador)

BIO-P-167

Selective one-step hydrotreatment of methyl palmitate over Co- and Mo-supported beta zeolite

S. U. Lee, T. W. Kim, K. E. Jeong, S. Y. Jeong, **C. U. Kim** (South Korea)

BIO-P-168

Impact of catalytic hydrotreatment over simulated pyrolysis oil for bio-char formation

E. Nejadmoghadam, A. Achour, O. Öhrman, P. Arora, L. Olsson, D. Creaser (Sweden)

Catalysts and reactors under dynamic conditions for energy storage and conversion

DYN-P-001

Particle size effects in Ru/CNF catalysts during supercritical water gasification of glycerol

D. Baudouin, C. Hunston, L. Koning, A. Agarwal, O. Kröcher, F. Vogel (Switzerland)

DYN-P-002

Perovskite oxides as catalysts for methanol steam reforming

T. Berger, J. Bock, F. Schrenk, H. Drexler, L. Lindenthal, C. Rameshan (Austria)

DYN-P-003

DFT investigation of the dynamics of Cu/ZnO, Cu/GaxOy, Ni/ZnO and Ni/GaxOy catalyst under operating conditions

C. Coppex, J. Jelić, F. Studt (Germany)

DYN-P-005

Cu-Mn substitution in spinel ferrites orients the mechanism of chemical-loop reforming of ethanol

O. Vozniuk[1,2], T. Cacciaguerra[1], N. Tanchoux[1], S. Albonetti[2], L. Stievano[1], J.-M. M. Millet[1], N. Bion[1], **F. Di Renzo[1]**, F. Cavani[2] ([1]France, [2]Italy)

DYN-P-006

Short pulse reductive activation of Pt/ceria for the low-temperature CO abatement in vehicles operated with the synthetic Diesel fuel OME

D. Eisenbeil, P. Demel, M. Haas, H. Hamel, B. Betz, A. Dreizler, C. Beidl, M. Votsmeier (Germany)

DYN-P-007

Methanation catalysts under dynamic reaction conditions: Spatially and temporally resolved reaction data and modelling

T. Engl, D. Kellermann, M. Langer, H. Freund, M. Rubin, R. Dittmeyer (Germany)

DYN-P-008

CO_2 hydrogenation over potassium promoted Fe/$YZrO_x$: Operando DRIFTS analysis of mechanistic aspects.

E. Fedorova, J. Weiß, L. Kraußer, C. Kubis, E. Kondratenko, A. Brückner (Germany)

DYN-P-009

Effects of support acidity of noble and transition metal catalysts on the dehydrogenation of Methylcyclohexane

P. Fernandez, E. Farah, E. Kantarelis (Sweden)

DYN-P-010

Effect of H/N ratio control in a multi-bed ammonia synthesis reactor using a Ru-based catalyst

Y. Goto, M. Kikugawa, K. Yamazaki, Y. Manaka, T. Nanba, H. Matsumoto, S. Ookawara, A. Sato, M. Aoki, N. Baba (Japan)

DYN-P-011

Operando X-ray absorption spectroscopy as a first step towards a knowledge-based optimization of Fischer-Tropsch catalysts

R. Elbuga-Ilica, A. Zimina, M.-A. Serrer, E. Saraçi, J.-D. Grunwaldt (Germany)

DYN-P-012

Additively manufactured reactor development for exothermic synthesis

N. Heikkinen, C. Frilund, N. Virkki, P. Simell, M. Reinikainen, A. Pasanen (Finland)

DYN-P-013

X-Ray operando studies of catalytic dehydrogenation in LOHC technology

O. Irrazabal Moreda[1], O.M. Magnussen[2], C. Paetz[2], K. Lomachenko[1], A. Sartori[1], J. Frey[1], J. Drnec[1] ([1]France, [2]Germeny)

DYN-P-014

Use of a newly developed reactor concept: Reverse water-gas shift reaction at ambient pressure

D. Ješić, A. Pohar, B. Likozar (Slovenia)

DYN-P-015

Ammonia decomposition over Ru/Al@Al_2O_3 Catalysts

Ho Jin Lee, Eun Duck Park (South Korea)

DYN-P-016

Pair Distribution Function for local restructuring phenomena in δ-Al_2O_3 supports and active catalyst particles

F. Manzoni, S. Schlicher, M. Bauer, M. Zobel (Germany)

DYN-P-017

Comprehensive reverse flow reactor model for fluid-solid systems

L. Mastroianni[1,2], M. Di Serio[1], T. Salmi[2], **V. Russo**[1,2] ([1]Italy, [2]Finland)

DYN-P-018

Exploring the benefits of sorption enhanced reforming for sustainable hydrogen production from biorefinery side streams

A. Mostafa, I. Rapone, A. Bosetti, M. C. Romano, A. Beretta, G. Groppi (Italy)

DYN-P-019

CO_2 methanation: Effect of H_2 load fluctuation on the performance of a monolithic reactor.

D. Pérez, Ximena García C. (Chile)

DYN-P-020

Metal-loaded highly porous BINAP containing polymers for the decomposition of formic acid to H_2 and CO_2

S. Seidel, P. J.C. Hausoul, R. Palkovits (Germany)

DYN-P-021

Impact of synthesis parameters on the activity of Cu/ZnO/ZrO_2 catalysts prepared by flame spray pyrolysis for CO_2-methanol synthesis

M. L. Schulte, V. C. Sender, L. Baumgarten, E. Saraçi, J.-D. Grunwaldt (Germany)

DYN-P-022

Advanced catalyst design for the H_2-efficient synthesis of dimethoxymethane from methanol

N. Simitsis, C. Mebrahtu, R. Palkovits (Germany)

DYN-P-023

Confined impinging Jet MicroReactor for continuous high-through-put synthesis of nanoscaled electrocatalysts including CFD modeling

T. Modl, A. Clausing, N. Lynn, S. Schmitz-Stöwe, T. Schwarz, **K. Stöwe** (Germany)

DYN-P-024

Continuous methane to methanol partial oxidation using Cu-Ferrierite

A. Yilmaz, B. Ipek (Turkey)

Electrocatalysis, including fuel cells

ELE-P-001

Use of novel carbonaceous materials in mixed oxide-carbon composite supported Pt catalysts for polymer electrolyte membrane fuel cells

I. Ayyubov[1], E. Tálas[1*], I. Borbáth[1], Z. Pászti[1], C. Silva[1], M. Florea[2], Á. Szegedi[1], S. Yazici[3], A. Tompos[1] ([1]Hungary, [2]Romania, [3]Turkey)

ELE-P-002

Influence of the upper potential limit on the stability of PtRu catalysts for reformate PEMFCs during potential cycling-based anode ASTs

V.Berova, K. Hengge, **T. Burger**, C. Scheu, T. Jurzinsky (Germany)

ELE-P-003

CuCr catalysts for ammonia electro-oxidation: A study on activity and selectivity

A. Cleetus, H. Teller, A.Schechter (Israel)

ELE-P-004

Porous nickel nanostructure coupled with localized electrochemically induced pH tuning for sensitive and selective nonenzymatic glucose detection

C. Ehinger [1,2], J. Gouyon[1], S. Ha[2], A. Walcarius[1] ([1]France, [2]USA)

ELE-P-005

Influece of lithium on phase transition of amorphous iridium oxohydroxide for oxygen evolution reaction

M. Falsaperna, S. J. Freakley (United Kingdom)

ELE-P-006

Noble metal-free anode fuel cells for portable devices

S. Neațu, F. Neațu, S. Somacescu, V. Șomoghi, **M. Florea** (Romania)

ELE-P-007

Electrochemical ammonia synthesis via nitrogen reduction coupled with hydrogen oxidation in a continuous-flow reactor

X. Fu, I. Chorkendorff (Denmark)

ELE-P-008

Polymer monomer enhanced electrocatalysts for hydrogen and oxygen evolution in alkaline water splitting

T. H. Chiang, H. Hsieh (Taiwan)

ELE-P-009

Catalysis of anode materials for direct ammonia fuel cell

A. C. Chien (Taiwan)

ELE-P-010

Simple and cost-effective surface modification for large area NiO electrode of Molten carbonate electrolysis cell

Y. Kim, B. Won, J. Myung (South Korea)

ELE-P-011

Controlling the growth of nanoparticles from exsolution modeling based on cation diffusion limitation

Y. H.Kim, S. Lee, Y. Kim, J. Myung (South Korea)

ELE-P-012

Zeolite-templated synthesis of N-doped carbon using pyridine for the oxygen reduction reaction

S. Kokuryo, K. Miyake, Y. Uchida, N. Nishiyama (Japan)

ELE-P-013

Value-generating 5-HMF electrooxidation via a novel electrode at industrial current densities

M. L. Krebs[1], A. Bodach[1], C. Wang[2], F. Schüth[1] ([1]Germany, [2]China)

ELE-P-014

Towards higher NH3 faradaic efficiency: Selective-poisoning of HER active sites by co-feeding CO in NO electroreduction

M. Li, J. Verkuil, S. Bunea, R. Kortlever, A. Urakaw (Netherlands)

ELE-P-015

Function-coordinated electrocatalysts for carbon dioxide reduction

Y. Li, C. Li (China)

ELE-P-016

Fluorine-doped lanthanum strontium cobalt ferrite perovskites as cathodic materials: investigation of ORR and CO_2RR

F. Deganello, C. Aliotta, R. Thangavel, V. La Parola, E. La Greca, **L.F. Liotta** (Italy)

ELE-P-017

Nickel decorated carbon nanotubes (CNTs) derived from bioethanol as electrocatalysts for featuring H_2 production and biorefinery

W. Nunthakitgoson. A. Sohail, S. Tiwtusthda, P. Chaipornchalen, A. Thivasasith, and C. Wattanakit (Thailand)

ELE-P-018

High Durability of Brownmillerite-type $Ca_2Fe_{0.75}Co_{1.25}O_5$ as Oxygen Evolution Catalyst in Neutral pH Range

H. Okada, E. Tsuji, S. Kitano, H. Habazaki, S. Suganuma and N. Katada (Japan)

ELE-P-019

Tailored nanoparticles as outstanding bifunctional electrocatalysts for pH universal water splitting

J. Martínez, C. Galdeano, I. Márquez, J. Mazarío, J. J. Calvente, J. L. Olloqui, **P. Oña-Burgos** (Spain)

ELE-P-020

Electrocatalytic performance of the composites containing N-doped carbon nanotubes and iron nanoparticles in oxygen reduction reaction

A. Pacuła, J. Gurgul, R. P. Socha, M. Ruggiero-Mikołajczyk, B. D. Napruszewska, P. Pietrzyk, D. Duraczyńska, G. Mordarski (Poland)

ELE-P-021

The composites of N-doped carbon materials and iron species – synthesis, characterization and evaluation in oxygen reduction reaction

A. Pacuła, J. Gurgul, M. Ruggiero-Mikołajczyk, P. Pietrzyk, D. Duraczyńska (Poland)

ELE-P-022

Low iridium content mixed-metal oxides for acidic OER in PEM-water electrolysers

T. Prölß, T. Franken (Germany)

ELE-P-023

Oxygen-deficient W-CoOOH nanostructures for improved electrochemical nitrate reduction to ammonia

S.A. Raheem, G. Ballai, I. Szenti, H. Haspel, Z. Kónya (Hungary)

ELE-P-024

Understanding the role of Ag in Cu-Ag bimetallic catalysts in electrochemical Fischer-Tropsch synthesis

F. A. Rollier, M.C. Figueiredo, E. J.M. Hensen (Netherlands)

ELE-P-025

Enhancement of selectivity during electrocatalytic reduction of carbon dioxide at copper centers supported onto nonstoichiometric oxides

I. A. Rutkowska, A. Chmielnicka, P. J. Kulesz (Poland)

ELE-P-026

Effect of the reductive treatment of composite supported Pt electrocatalysts for PEM fuel cell applications

C. Silva, I. Borbáth, A. Tompos, Gy. Sáfrán, Z. Pászti (Hungary)

ELE-P-027

Transition metal phosphide-based materials for HER and OER reactions

N. Spera, **J. P. S. Sousa** (Portugal)

ELE-P-028

Copper/Boron carbon nitride Core/Shell structure for electrochemical reduction of nitrate to ammonia

A.T. Tabrizi, G. Ballai, I. Szenti, H. Haspel, Z. Kónya (Hungary)

ELE-P-029

Water electrolysis in molten salts under increased temperatures and pressures

J. Tie[1], F. Bannert[1], E. Christensen[2], N. Bjerrum[2], K. Köhler[1] ([1]Germany, [2]Denmark)

ELE-P-030

High-entropy alloys as oxygen reduction reaction electrocatalysts for proton exchange membrane fuel cells application

D.H. C. Wan[1], G. Chen[2], J. H. C. Yan[1], R. F. Wang[1*], M. Shao[2] ([1]United Kingdom, [2]China)

ELE-P-031

Investigation of radical formation in AEMFCs by means of operando EPR spectroscopy

S. Wierzbicki[1], J.C. Douglin[2], R.K. Singh[2,3], D.R. Dekel[2], K. Kruczała[1] ([1]Poland, [2]Israel, [3]India)

ELE-P-032

Direct ammonia fueled solid oxide fuel cells: State-of-the-art, catalyst development, and future challenges

S. Yang, S. Oh, H. Kim, M. J. Oh, J. Lee, J. Son (South Korea)

ELE-P-033

Design of a perovskite oxide cathode for a proton-conducting solid oxide fuel cell

P. Yao, Y. Li (Finland)

ELE-P-034

Electrocatalytic hydrogenation of olefinic and carbonyl compounds with Pd@Carbon nanotubes at an oil-water interface

C. Han, **J. Zenner**, J. Johny, N. Kaeffer, A. Bordet, W. Leitner (Germany)

ELE-P-035

Ru-deposited Cu nanoplate for efficient hydrogen evolution reaction in alkaline water electrolyzers

Y. Zuo, S. Bellani, M. Ferri, D. Shinde, M.I. Zappia, R. Brescia, M. Prato, L.D. Trizio, F. Bonaccorso, L. Manna (Italy)

ELE-P-036

Shape-shifting exsolved nanoparticles in solid oxide cells

S. Lee, Y. H. Kim, Y. Kim, J. Myung (South Korea)

ELE-P-037

Fabrication of ultrathin PdAgPt nanosheets by controlling composition for enhanced ethanol oxidation reaction

J. Yu, J. Jung, J. Hong (South Korea)

ELE-P-038

In-situ investigation of the MOF-Derived catalyst formation mechanism

H. Haspel, T.G. Pocsai, D. Sebők, I. Szenti, D.G. Dobó, Á. Kukovecz, Z. Kónya (Hungary)

ELE-P-039

Continuous high-throughput synthesis of Pt and Pt – Ni particles as fuel cell electrocatalysts using a Confined Impinging-Jet MicroReactor

T. Modl, N. Lynn, S. Schmitz-Stöwe, T. Schwarz, **K. Stöwe** (Germany)

ELE-9-040

Fabrication and charcteristics of MXene for the secondary battery

K. M. ROH, S. K. Kim, T. J. Park, H. J. Kwon, J. J. You (South Korea)

Environmental photocatalysis

ENVP-P-001

Decabromodiphenyl ether photo-debromination via halogen bond activation on sulfur vacancies enriched zinc indium sulfides

X. Jin[1], C. Sun[1], Z. Yu[2], **Q. Shen**[1*] ([1]China, [2]Norway)

ENVP-P-002

Enhancement of hydrogen production using gold coordination compounds anchored on TiO_2 hybrid photocatalysts

A. A. Lestón, L. Soler, E. Martínez, I. Angurell, L. Rodríguez, J. Llorca (Spain)

ENVP-P-003

Ag nanoparticle doped ZnO thin films: Preparation and applications in photocatalysis and antibacterial applications

A. H. Haritha[1,2], Z. Neščáková[1], A. Durán[2], D. Galusek[1], J. J. Velázquez[1], Y. Castro[2] ([1]Slovakia, [2]Spain)

ENVP-P-004

Poster / Bimetallic Fe-Zn oxides from spent pickling effluents for dye photocatalytic degradation

A. N. Ardila Arias[1], A. Ramírez Marín[1], L. Ocampo-Carmona[1], D. Ortiz-Muñoz[1], E. Arriola-Villaseñor[1], A. Talavera-López[2], A. Ortiz[2], G. Fuentes[2] ([1]Colombia, [2]México)

ENVP-P-005

Doped ZnO nanowires obtained by chemical bath deposition for water remediation by photocatalysis: A screening approach

A. Baillard, E. Appert, V. Jacob, J. M. Becht, V. Consonni (France)

ENVP-P-006

Inkjet printing of TiO_2 thin films doped with Cu_xO for photocatalytic water splitting

M. Navlani-García[1*], J. Chávez-Caiza[1], L. Belova[2], C. M. Lousada[2], **Á. Berenguer-Murcia**[1], D. Cazorla-Amorós[1] ([1]Spain, [2]Sweden)

ENVP-P-007

Efficient removal of antibiotics from waste water by photocatalytically active supramolecular organic–inorganic magnetic composites

S. G. Ion, O. D. Pavel, N. Guzo, M. Tudorache, S. M. Coman, V. I. Parvulescu, **B. Cojocaru** (Romania)

ENVP-P-008

Photoelectrochemical H_2 production using g-C_3N_4/Sn_3O_4 photoanode

F. da C. Romeiro, J. A. L. Perini, M. V. B. Zanoni, M. O. Orlandi (Brazil)

ENVP-P-009

Zeolite ZSM-5 Film-Supported metal oxides for photocatalytic decomposition of volatile organic compounds

M. de Graaf, R.L. Riemersma, B. Baumgartner, R. J. Grijpma, A.-E. Nieuwelink, E. T. C. Vogt, E. M. Hutter, B. M. Weckhuysen (Netherlands)

ENVP-P-010

TIO_2 and TIO_2-CU_2O photocatalytic thin films deposited by AAδ MOCVD for marine antibiofouling applications

L. Deblock, M. Weidenhaupt, F. Faÿ, C. Hellio, C. Jimenez (France)

ENVP-P-011

The potential of spectral methods to be used in the characterization of photocatalysts

H. Drobná, L. Dubnová, V. Meinhardová, L. Smoláková, L. Čapek (Czechia)

ENVP-P-012

Application of indirect techniques of EPR spectroscopy in heterogenous photocatalysis

D. Dvoranová, Z. Dyrčíková, K. Czikhardtová (Slovakia)

ENVP-P-013

Investigating the transient behaviors during photocatalytic NO oxidation

S. Ernam, D.Üner (Turkey)

ENVP-P-014

$CuFe_2O_4$ as efficient photoactive materials for degradation of organic pollutant

S. Gowrisankaran, H. Makarov, M. Motola, O. Monfort (Slovakia)

ENVP-P-015

Gas Phase deposition of well-defined bimetallic gold-silver clusters for photocatalytic applications

V. C. Chinnabathini[1], F. Dingenen[1], R. Borah[1], I. Abbas[1], J. van der Tol[1], Z. Zarkua[1], F. D'Acapito[2], T. H. T. Nguyen[1], P. Lievens[1], **D. Grandjean**[1], S. W. Verbruggen[1], E. Janssens[1] ([1]Belgium, [2]France)

ENVP-P-016

Propionic acid decomposition by the multi-decorated TiO_2-based photocatalysts under visible light irradiation

N. Haghshenas, G. Falcone, E. Falletta, C.L. Bianchi (Italy)

ENVP-P-017

Green hydrogen generation from photocatalytic water splitting using PGM modified TiO_2

N. Harrisankar, E. van Steen (South Africa)

ENVP-P-018

Enhanced photocatalytic hydrogen evolution of ZIF-8/$CuWO_4$ hybrid structures

M. U. Iqbal[1*], M. Zitnan[1], O. Sisman[1], L. Wondraczek[2], D. Galusek[1], J. Velazquez[1] ([1]Slovakia, [2]Germany)

ENVP-P-019

Photocatalytic water decontamination: Fe-C/g-C_3N_4 catalyst in action on Vltava river

N. Ishak[1], M. Šoóš[1], M. Grandcolas[2] ([1]Czechia, [2]Norway)

ENVP-P-020

MoS_2 nanomaterials as efficient photocatalysts in Advanced Reduction Processes (ARPs)

J. Kisała (Poland)

ENVP-P-021

Advanced oxidation process for degradation of textile microplastic in wastewater

M. Kocijan [1*], T. Radošević [2], L. Einfalt [2], N. Gračanin [2], D. Vengust[2], M. Podlogar[2] ([1]Croatia, [2]Slovenia)

ENVP-P-022

Effect of the photocatalytic activity of TiO_2 on preparation method for CO_2 reduction and water splitting

M. Filip Edelmannová[1*], K. Kočí[1], M. Reli[1], P. Nadrah[2], A. Škapin Sever[2], U. Štangar Lavrenčič[2] ([1]Czechia, [2]Slovenia)

ENVP-P-023

A novel approach to fabricating a highly condensed oxygen-doped carbon nitride for wastewater treatment

B.–K. Lee, M. Jourshabani, M. R. Asrami (South Korea)

ENVP-P-024

Fe-based composites for the effective removal of wastewater pollutants

A. Madhusudhan, T. Roch, M. Motola, O. Monfort (Slovakia)

ENVP-P-025

Heterojunction semiconductors photocatalytic study

K. Milošević, D. Lončarević, T. Mudrinić, J. Dostanić (Serbia)

ENVP-P-026

Plasmonic Photocatalysts for Sustainable Artificial Photosynthesis.

E. Naughton, R. Thampi, J. A. Sullivan (Ireland)

ENVP-P-027

2D-3D $Mo_{1.33}C$-TiO_2 composites for photocatalytic hydrogen production

M. Nair,[1] A. C. Iacoban,[1] A. Kuncser,[1] M. Florea,[1] F. Neaţu,[1] A. Mininni,[2] H. Badr,[2] M. W. Barsoum,[2] **Ş. Neaţu**[1] ([1]Romania, [2]USA)

ENVP-P-028

Preparation of carbon dots (CDs) from Coconut water and CDs/ZnO composite photocatalyst for degredation reactive red 141 Azo Dye

D. Nugroho, S. Nanan, R. Benchawattananon (Thailand)

ENVP-P-029

Development of photocatalytic filters for the degradation of indoor air pollutants

I. M. Oliveira, J. P. S. Sousa (Portugal)

ENVP-P-030

Investigating the photocatalytic performance and kinetics of commercial TiO_2-P25 and ZnO nanoparticles for ibuprofen photodegradation

M. Hmoudah[1,2], C. Chianese[1], V. Russo[1,2], M. Di Serio[1], T. Salmi[2] ([1]Italy, [2]Finland)

ENVP-P-031

Impact of the strength of Pd-perovskite interaction in Natural Gas Vehicle three-way catalysts: A kinetic approach

Y. Zheng, F. Dhainaut, **P. Granger**, G. Pascal (France)

ENVP-P-032

Palladium doped reduced graphene oxide-TiO_2 composites for enhanced visible-LED photocatalytic erythromycin degradation

L. M. Pastrana-Martínez[1], L. Rossi[2], S. Morales-Torres[1], P. I. Villabrille[2], J. A. Rosso[2], F. J. Maldonado-Hódar[1] ([1]Spain, [2]Argentina)

ENVP-P-033

Nanostructured ferrites as possible catalyst for plasmon – assisted N_2 photofixation

L. Rizzato, A. Glisenti (Italy)

ENVP-P-034

H_2 production from the photocatalytic reforming of ethylene glycol

L. Roebuck, H. Daly, C. Hardacre (United Kingdom)

ENVP-P-035

Changes in photocatalytic behavior of g-C_3N_4/TiO_2 composites with varying the morphology of TiO_2

M. Roškarič, G. Žerjav, J. Zavašnik, A. Pintar (Slovenia)

ENVP-P-036

Sono-photo hybrid catalytic process for the degradation of Tetracycline

M. S. S. Kalajahi, R. Klement (Slovakia)

ENVP-P-037

Synergistic effect of bismuth and molybdenum-based heterojunction photocatalysts with peroxymonosulfate for efficient degradation of N-Methyl-2-Pyrrolidone

P. Kumar[1], **S. Verma**[2], U. L. Stangar[1] ([1]Slovenia, [2]India)

ENVP-P-038

Synthesis and characterization of Au/TiO_2 catalysts with different loadings of Au for heterogeneous photocatalysis

Š. Slapničar, G. Žerjav, A. Pintar (Slovenia)

ENVP-P-039

Influence of butanol isomers on photocatalytic hydrogen production over Pt doped titanate catalyst

H. Šalipur[1], M. Huš[2], A. Prašnikar[2], J. Dostanić[1], D. Lončarević[1] ([1]Serbia, [2]Slovenia)

ENVP-P-040

Genotoxicity evaluation on photocatalysts ZnO and silver-decorated ZnO on onion root cells

N. Tantisuwichwong, N. Boonso, S. Nunthasumreung, S. Nanan (Thailand)

ENVP-P-041

The effects of antibiotic aqueous solution ofloxacin (OFL) and photocatalyst 5Ag-ZnO treated OFL on onion roots and cell division

N. Tantisuwichwong, S. Nanan, N. Tantisuwichwong (Thailand)

ENVP-P-042

Selective photocatalytic reduction of CO_2 to CH_4 over Pd-modified TiO_2 nanocatalyst

X. Tian[1,2], X.-Y. Liu[1], D. Hildebrandt[1], F.-T. Li[2], X.-J. Wang[2] ([1]South Africa, [2]China)

ENVP-P-043

Evaluation of photocatalytic particles deposition techniques to fibrous membranes for pollutant degradation

Z. Vilamova[1], M. J. Sampaio[2], L. Svoboda[1], J. Bednar[1], Z. Simonova[1], R. Dvorsky[1], C.G. Silva[2], J. L. Faria[2] ([1]Czechia, [2]Portugal)

ENVP-P-044

Photodegradation of sulfamethoxazole by graphene-like biochar doped TiO_2 irradiated with simulated sunlight

C. Yuan, C.-H. Hung, J.-H. Lin, Y.-D. Dai (Taiwan)

ENVP-P-045

Influence of Schottky barrier height on the photo/thermal catalytic activity of TiO_2+Pt catalysts

G. Žerjav, A. Pintar (Slovenia)

ENVP-P-046

CdS-chitosan nanocomposite for efficient visible-light-driven photocatalysis

P. Khoza, L. Mbonnjwa, S. Nosenga (South Africa)

ENVP-P-047

Photocatalytic degradation of micropollutants using TiO_2 on carbon foam

D. Lokhat, E. Kadwa, N. Keswa, N. Ntshangase, M. Carsky (South Africa)

ENVP-P-048

Fabrication of bioinspired TiO_2-CdS core-shell structure for long-term stability hydrogen evolution photocatalyst

J. Lee, A. G. Aulia, J. Hong, B. J. Kim* (South Korea)

Treatment of flue / exhaust gases

EXH-P-001

Aging of three-way catalysts for biogas fuelled heavy-duty trucks

A. Ersson, S. af Ugglas, M. Kempe, M. Sundén, H. Kusar (Sweden)

EXH-P-002

The effect of various renewable fuels on diesel particulate filter performance

S. A. Ugglas, A. Ersson, L. J. Pettersson, H. Kusar (Sweden)

EXH-P-003

Doped ceria catalysts for NOx storage and reduction

O. Hamill, A. Goguet, N. Collis, P. Millington, J. Collier, L. Mantarosie, N. Artioli (Italy)

EXH-P-004

Interaction between Sorbent and metal catalyst in a dual functional material for the direct air capture & conversion of CO_2

F. Karaçoban, Tomas van Haasterecht, Harry Bitter (Netherlands)

EXH-P-005

Mechanism for SO_2 poisoning of Cu-CHA during low temperature NH_3-SCR

J.D. Bjerregaard[1], M. Votsmeier[2], H. Grönbeck[1] ([1]Sweden, [2]Germany)

EXH-P-006

Structural characteristics leading to a high CH_4 oxidation activity for Pd/CeO_2-based catalysts

D. Zengel[1], F. Maurer[1], A. Salcedo[2], C. Michel[2], D. Loffreda[2], M. Aouine[2], T. Epicier[2], S. Loridant[2], P. Vernoux[2], M. Casapu[1], J.-D. Grunwaldt[1] ([1]Germany, [2]France)

EXH-P-007

Influence of the preparation method on structure, activity and stability of bimetallic PtPd/Al_2O_3 catalysts for emission control

J. Czechowsky[1], P. Dolcet[1], C. B. Maliakkal[1], M. Crone[1], R. Popescu[1], H. Störmer[1], S. Gross[2], S. Behrens[1], M. Türk[1], J.-D. Grunwaldt[1], M. Casapu[1*] ([1]Germany,[2] Italy)

EXH-P-008

In-situ investigation of the Pd-Ce interaction evolution under stoichiometric CH_4 oxidation conditions

M. Danielis[1], N. J. Divins[2], J. Llorca[2], L.s Soler[2], X. Garcia[2],
Isabel Serrano[2], L. E. Betancourt[3], W. Xu[3], J. A. Rodríguez[3], S.a D. Senanayake[3], S. Colussi[1], A. Trovarelli[1] ([1]Italy, [2]Spain, [3]USA)

EXH-P-009

Non-stoichiometric spinels ferrites ($Co_xFe_{3-x}O_4$ and $Mn_xFe_{3-x}O_4$) in study on methane oxidation

A. Decoster, F. Dhainaut, P. Granger (France)

EXH-P-010

Cu-doped cryptomelane and spinel $CuxMn_{3-x}O_4$ catalysts for CO oxidation

H. Pan[2], X. Chen[1], C. López-Cartes[1], J. Martínez-López[1], E. Bu[1], J.M. Rodríguez-Izquierdo[1], **J.J. Delgado**[1] ([1]Spain,[2]China)

EXH-P-011

Ceria and praseodymia-based catalysts for the removal of gaseous pollutants from oxyfuel engines

A. Díaz-Verde, J. C. Martínez-Munuera, A. García-García, P. Piqueras, E. J. Sanchis (Spain)

EXH-P-012

CO oxidation performance in GDI engine exhaust conditions of $Ba_xMn_{0.7}Cu_{0.3}O_3$ (x = 1, 0.9, 0.8 and 0.7) perovskite catalysts

A. Díaz-Verde, E. L. d. S. Veiga, H. Beltrán-Mir, V. Torregrosa-Rivero, M. J. Illán-Gómez, E. Cordoncillo-Cordoncillo (Spain)

EXH-P-013

Exploiting proximity Effects of highly dispersed Pt species on CeO_2 for improved emission control

F. Maurer, **P. Dolcet**, A. Beck, J. Jelic, F. Studt, M. Casapu, J.-D. Grunwaldt (Germany)

EXH-P-014

Preparation of high performance CeO_2-ZrO_2 for automotive OSC material and its surface analyses

M. Inoue, S. Watanabe, M. Yamaguchi, T. Osako, K. Kato, Y. Kobayashi, Y. Nagao, **Y. Endo**, T. Wakabayashi, M. Haneda (Japan)

EXH-P-015

Fe And Mn phases deposited on ceria biomorphic fibers by glidarc plasma

M. Rodriguez [1,2], V.G. Milt [2], E.E. Miró [2], **E.M. Gaigneaux** [1] ([1]Belgium, [2]Argentina)

EXH-P-016

An isotopic study on oxygen interaction and GDI soot combustion over ceria-praseodymia mixed oxides with pulse experiments using 18O2

J.C Martínez Munuera, M. Cortés Reyes, **A. G. García** (Spain)

EXH-P-017

Operando characterization techniques and smart catalyst design as a tool for strategy development towards noble metal content reduction

D. Gashnikova, F. Maurer, P. Dolcet, M. Casapu, J.-D. Grunwaldt (Germany)

EXH-P-018

Effect of copper doping in the catalytic performance of $Ba_{0.9}A_{0.1}MnO_3$ (A=Ce, La) perovskites for GDI soot oxidation

N. Ghezali, A. Díaz Verde and M. J. Illán Gómez (Spain)

EXH-P-019

Catalytic oxidation of Cl-VOCs over nanostructured cobalt oxide catalysts

A. Gil-Barbarin, J.I. Gutiérrez-Ortiz, R. López-Fonseca, B. de Rivas (Spain)

EXH-P-020

Oxidation of 1,2-dichlorobenzene (o-DCB) with MnO_x-CeO_2 formulation

J.A. Martín-Martín, **M.P. González-Marcos**, A. Aranzabal, J.R. González-Velasco (Spain)

EXH-P-021

Design of subsurface single-atom catalysts for oxidation chemistry

X. Guan, Feng Ryan Wang (United Kingdom)

EXH-P-022

Modulation of the redox capacity of copper by calcium during the reduction of NO by CO and Naphthalene

J. Herrera, G. Aguila, **S. Guerrero** (Chile)

EXH-P-023

Alkaline earth containing yttrium oxide based catalysts for high-temperature NO decomposition reaction

K. Takenaka, Y. Hayashi, Y. Nishida, **M. Haneda** (Japan)

EXH-P-024

Understanding the impact of aging conditions on the thermal deactivation of three-way catalysts

S.L. Heck, P. Dolcet, G. Nails, J.-D. Grunwaldt, M. Casapu (Germany)

EXH-P-025

Facile one-pot synthesis of Fe-UZM-35 catalysts for ammonia selective catalytic reduction

X. Tan, S. Zhang, **S. B. Hong** (South Korea)

EXH-P-026

Beta zeolite (BEA)-based catalysts for the removal of N_2O from flue gas of ammonia-powered ships

R. Chand, J. M. Christensen, B. B. Hansen, M. Brorson, A. D. Jensen (Denmark)

EXH-P-027

Understanding different zinc species effect on Mn-Ce/Cu_x catalyst for low-temperature NH_3-SCR reaction: Comparison of $ZnCl_2$, $Zn(NO_3)_2$, $ZnSO_4$ and $ZnCO_3$

L. Chen [1,2], S. Ren[1], T. Chen[1], X.di Li[1], Z. Chen[1], M. Wang[1], Q.i Liu[1] ([1]China, [2]Switzerland)

EXH-P-028

Novel nanostructured Pd/Co-alumina materials for the catalytic oxidation of atmospheric pollutants

E.F. Iliopoulou, E. P. Pachatouridou, A.A. Lappas (Greece)

EXH-P-029

Potential catalysts for conversion of nitrogen oxides based on porous silica spheres modified with copper or iron cations

A. Jankowska, A. Kowalczyk, M. Rutkowska, M. Michalik, Z. Piwowarska, L. Chmielarz (Poland)

EXH-P-030

Ru as cost-effective alternative for Rh in TWCs

P. Joshi, Marcus Bonifer (Germany)

EXH-P-031

Noble metal catalysts for plasma-assisted oxidation of methane

J. Palo, **J. Kihlman** (Finland)

EXH-P-032

Na cation effect in zeolite on direct air capture of CO_2

D. Y. Kim, W. B. Bae, S. Kweon, M. B. Park, S. B. Kang (South Korea)

EXH-P-033

Performance of Ni-Mn and Ni-Co-Mn mixed oxide catalysts in total oxidation of volatile organic compounds

T. Babii, K. Jirátová, J. Balabánová, M. Koštejn, J. Maixner, **F. Kovanda** (Czechia)

EXH-P-034

Investigating of metal vanadate based catalysts in expediting NOx reduction at ultra-low temperatures and their applications

D. W. Kwon (South Korea)

EXH-P-035

Effect of different reductants on the NO SCR over Ag catalysts

E. L. Greca[1], T. S. Kharlamova[2], M. V. Grabchenko[2], L. Consentino[1], D. Yu. Savenko[2], G. Pantaleo[1], O. V. Vodyankina[2], L. F. Liotta[1] ([1]Italy, [2]Russia)

EXH-P-036

The use of Spaci-MS to spatio-temporally resolve Three-Way Catalysts

A. Lanza, S. Raphy, L. Phillipson, A. Kolpin, D. Bounechada, A.P.E. York (United Kingdom)

EXH-P-037

Optimization of potassium glass composition for catalytic soot combustion by transition metal doping

P. Legutko, E. Jarosz, M. Dziadek, G. Grzybek, M. Marzec, M. Michalik, A. Adamski (Poland)

EXH-P-038

Excellent hydrocarbon tolerance of CeO_2-WO_3-SnO_2 oxide catalyst for the NH_3-SCR of NOx

J. Liu, X. Shi, Y. Yu, Q. Feng, H. He (China)

EXH-P-039

Small gas molecule CO in situ directed highly stable in-plane 1T phase boost Co-MoS_2 thiophene hydrodesulfurization

L. Liu, N. Liu, B. Chen (China)

EXH-P-040

Evaluating the uncatalysed and catalysed soot combustion behaviour from TG-MS analysis: a kinetic study

I. Mekki, I. García-Prieto, J. A. Caballero-Suárez, P. Piqueras, J. De la Morena, A. García-García (Spain)

EXH-P-041

Pd-Pt catalysts supported over Co modified alumina for the methane combustion and CO oxidation

L. Minkov, An. Naydenov, Il. Hristova, H. Kolev, S. Todorova (Bulgaria)

EXH-P-042

Performance analysis of isostructural Cu-CHA-zeolites in NSR-SCR Hybrid DeNOx technology for diesel engines

S. Molina-Ramírez, M. Cortés-Reyes, C. Herrera, M.A. Larrubia, L.J. Alemany (Spain)

EXH-P-043

Micro-/Mesoporous Cu-Containing Zeolites Investigated in NH_3-SCR-DeNOx

A. M. Robles, M. Fernadi Lukman, A. Pöppl, R. Gläser, M. Jabłońska (Germany)

EXH-P-044

NH_3-SCR catalytic performance of natural clinoptilolite modified with hydrotalcite-like phase

A. Szymaszek-Wawryca[1*], P. Summa[1], U. Díaz[2], D. Duraczyńska[1], B. Samojeden[1], **M. Motak[1]** ([1]Poland, [2]Spain)

EXH-P-045

VOx/WO3/TiO2 catalysts for NOx abatement with NH_3-SCR: investigation of the role of tungsten

C. Nannuzzi, L. Mino, S. Bordiga, M. Sist, J.M. Houghton, P.N.R. Vennestrøm, T.V.W. Janssens, G. Berlier (Italy)

EXH-P-046

Surface property studies on Sb promoted VOx/TiO_2 NH_3-SCR catalysts

A. Nellessen, A. Schaefer, A. Martinelli, P.-A. Carlsson (Sweden)

EXH-P-047

Processing a burner gas from autothermal biogas combustion for syngas production

K. Neubauer, U. Armbruster, S. Wohlrab, S. Anger, H.-P. Schmidt (Germany)

EXH-P-048

Mechanistic insights of total methane oxidation over iron-containing beta zeolites

A. Niederdränk, T. Kratky, J. Schobel, S. Günther, O. Hinrichsen (Germany)

EXH-P-049

Effect of dopants on soot oxidation over doped Ag/ZrO_2 catalysts for catalyzed gasoline particulate filter

L. Nossova, G. Caravaggio (Canada)

EXH-P-050

Mn substitution of Co in mixed oxides – effect on physical, chemical and catalytic properties in direct NO decomposition

Bílková T., Pacultová K., Fridrichová D., Karásková K., Koštejn M., Jirátová K., **Obalová L.** (Czechia)

EXH-P-051

Ni-LaMnO3 nanocomposites as novel PGM-free CH4 combustion catalysts: effect of synthetic method on catalytic performances

A. Osti, L. Rizzato, J. Cavazzani, A. Glisent (Italy)

EXH-P-052

Facile synthesis of Ir/$LaFeO_3$ catalyst for propene total oxidation

F. Pan[1], W. Zhang[1], C. Ferronato[1], J. Valverde[2], A. Giroir-Fendler[1] ([1]France, [2]Spain)

EXH-P-053

Low-temperature toluene oxidation on Fe-containing modified SBA-15 materials

M. Popova[1], I. Trendafilova[1,2], M. Ojeda[3], J.M. Andresen[3], A. Ristic[4], M. Dimitrov[1], N. Novak Tušar[4], G. Atanasova[4] ([1]Bulgaria, [2]Belgium, [3]UK, [4]Slovenia)

EXH-P-054

Microwave activation of oxide catalysts for direct oxidation of exhaust gas components

D. Röhrens, A. Abouserie, X. Wu, U. Simon (Germany)

EXH-P-055

Analysis of the process of soot removal from diesel engine exhaust with the use of MnOX-CeO_2 catalysts

M. Rotko[1], **J. Ryczkowski**[1], K. Karpińska-Wlizło[1], N. Dubińska[1], P. Moustris[1,2] ([1]Poland, [2]Greece)

EXH-P-056

One-pot synthesized Fe-ITQ-2 as catalyst for selective catalytic reduction of nitrogen oxides with ammonia – the effect of iron loading

A. Szymaszek-Wawryca[1*], U. Díaz[2], D. Duraczyńska[1], **B. Samojeden**[1], M. Motak ([1]Poland, [2]Spain)

EXH-P-057

Copper effect on the catalytic performance of $LaMnO_3$ for toluene oxidation

C. A. Mendez[1], J.A Gallego[2], **A. Santamaria**[1] ([1]Colombia, [2]Germany)

EXH-P-058

Biological air quality: catalytic inactivation of airborne viruses

A. Serrano-Lotina, A. Vazquez-Calvo, P. Llanos, A. Gomez-López, R. Martin, M. García-Castey, V. Alcolea-Rodriguez, A. Alcamí, M.A. Bañares (Spain)

EXH-P-059

Pt and Pd-based catalysts for NOx reduction from H_2 combustion engines

J. Shao, P.H. Ho, D. Creaser, L. Olsson (Sweden)

EXH-P-060

Promotional effect of MoOx for the H_2-deNOx reaction using Pt/ZrO_2 catalysts

D. Schröder , S. Kureti (Germany)

EXH-P-061

Effect of Fe and Ce in a manganese titania catalyst for the low-temperature catalytic reduction of NO_x with NH_3

C. I. Q. Silva, P. Lavrik, M. N. Hedhili, S. K. V.ranmaril, S. Komaty, J. Ruiz-Martínez (Saudi Arabia)

EXH-P-062

Cobalt-Manganese and iron-manganese mixed oxide catalysts for the total oxidation of dimethyl ether in flue gases from formaldehyde production plants

M. Smyrnioti, V. Dracopoulos, T. Ioannides (Greece)

EXH-P-063

High-throughput synthesis of new up-scalable SCR catalysts and reaction characterization

S. Amann , T. Schwarz , K. Stöwe , F. Wen (Germany)

EXH-P-064

Composites of zeolite Y and Cu-containing mixed metal oxides as catalysts for NH-SCR-DeNOx

R. S. R. Suharbiansah, M. F. Lukman, A. M. Robles, A. Pöppl[2], R. Gläser , M. Jabłońska (Germany)

EXH-P-065

Intensified POCS supports with optimized strut geometry for catalytic reactors

C. Ferroni, M. Bracconi, M. Ambrosetti, M. Maestri, G. Groppi, **E. Tronconi** (Italy)

EXH-P-066

Improving sulphur resistance in low temperature specific SCR catalysts

A. Sagar[1], M. Casanova[1], M. Czakler[1] H. Solt[2], G. P. Szijjártó[2], G. Novodárszki[2], A. Tompos[2], **B. Truscott[1]** ([1]Austria, [2]Hungary)

EXH-P-067

Role of ionic liquids as promoters to enhance CO2 capture performance of methyldiethanolamine

S. C. Tiwari, K. K. Pant, S. Upadhyayula (India)

EXH-P-068

Cu-doped CeO_2 needle-shaped nanocatalysts for low temperature CO oxidation

X. Wu [1], M.Meledina [2], C. Ozsoy-Keskinbora [2], U. Simon [1]([1]Germany, [2]Netherlands)

EXH-P-069

Maximizing the CuO/Co_3O_4 interface for N_2O emission control

Z. Yao, X. Guan, L. Chen, R. Wang(United Kingdom)

EXH-P-070

Catalytic oxidation of propane over Pt-Pd bimetallic nanoparticles supported on TiO_2

R. Camposeco, A. E. Torres, V. Maturano, **R. Zanella** (Mexico)

EXH-P-071

Outstanding synergistic effect of Au-Ir/Al_2O_3 catalysts on the total oxidation of propane

R. Camposeco, **R. Zanella** (Mexiko)

EXH-P-072

Pd-MeO_x/Al_2O_3 (Me= Co or Ni) catalysts for methane combustion

S. Zh. Todorova, A. I. Naydenov, R. H. Velinova, Y. G. Karakirova, H.G. Kolev (Bulgaria)

Fine chemicals

FINE-P-001

One-step basic-catalyzed double substitution for the synthesis of fused ring compound: 3,8-Dibromo-2,9-dinitro-5,6-dihydrodiimidazo[1,2-a:2', 1'-c]pyrazine

Y. X. Liu, Z. W. Ye (China)

FINE-P-002

Regioselective N-Alkylation of 2-Amino-Azoles with alcohols for the synthesis of 2-N-(alkylamino)azoles catalyzed by a ruthenium complex bearing a functional ligand

X. Xu, Y. Tang, J. Zhang, F. Li (China)

FINE-P-003

Development of a packed bed reactor system for CO_2 hydrogenation to formic acid using ruthenium PNP pincer catalyst

G. Afreen[1], A. Bansode[1], K. Wada[2], M. Hirano[2], H. Matsuda[2], A. Urakawa[1*] ([1]Netherlands, [2]Japan)

FINE-P-004

Non-metal doped triazine-based covalent organic frameworks as heterogeneous photocatalysts for biomass conversion

A. Akhundi, M. Wark (Germany)

FINE-P-005

Reductive amination of levulinic acid to produce pyrrolidones-derived compounds through Nickel Phosphide heterogeneous catalysts

C. Araya-López, E. Blanco, N. Escalona, (Chile)

FINE-P-006

Atropselective negishi coupling at scale – The key to an efficient, stereoselective synthesis of GDC-6036

S. Bachmann[1], R. Bigler[1], U. Orcel[1], E. Trachsel[1], J. Xu[2], H. Zhang[2] ([1]Switzerland, [2]USA)

FINE-P-007

Bis(NHC) Mn(I) complexes: Catalysts for the hydrogenation of carboxylic acid esters

N. F. Both, A. Spannenberg, H. Jiao, K. Junge, M. Beller (Germany)

FINE-P-008

Enhancing the chemo-enzymatic one-pot oxidation of cyclohexane via in situ H2O2 production over supported Pd-based catalysts

J. Brehm[1], R. J. Lewis[1], X. Liu[2] and G. J. Hutchings[1] ([1]United Kingdom, [2]China)

FINE-P-009

Tandem production of 2-benzimidazole of pharmaceutical interest using Iridium nanoparticles supported onto titanium substituted MCM-41

J. Herrera, S. Bedoya, D. Gonzalez-Vera, C. C. Torrez, **C. H. Campos** (Chile)

FINE-P-010

Diverse Alkyl–Silyl Cross-Coupling via homolysis of unactivated C(sp^3)–O bonds by supported Au catalysts

M. Doi, Y. Yasui, H. Miura, T. Shishido (Japan)

FINE-P-011

One-pot synthesis of 2-substituted benzimidazoles by bimetallic Ni-Co supported onto TiO_2 catalysts

D. González-Vera[1], J.N. Díaz de León[2], C.C. Torres[1], C.H. Campos[1] ([1]Chile, [2]Mexico)

FINE-P-012

Reactive distillation for continuous production of Ethyl chloro acetate

C. Gupta, M. Sanjay (India)

FINE-P-013

Propane dehydrogenation to propene with CO_2 on Zn(Ga)-BEA zeolites

S. Orlyk[1], A. Kapran[1], Y. Millot[2], **S. Dzwigaj**[2] ([1]Ukraine, [2]France)

FINE-P-014

Preparation of esters of tertiary alcohols

M. Kotova, A. Šnebergerová, T. Vargina (Czechia)

FINE-P-015

Iridium nanoparticles deposited onto nanotubes supports for the hydrogenation of nitrobenzene: Effect of the support nature

E. Leal-Villarroel[1], C. C. Torres[1], P. Serp[2], C. H. Campos[1]. ([1]Chile, [2]France)

FINE-P-016

Utilisation of iron carbonyls in Pd-catalysed carbonylation in batch and flow mode

P. Lopatka, M. Markovič, P. Koóš, M. Králik, T. Gracza (Slovakia)

FINE-P-017

Impact of O-defects and Ru species on aerobic oxidation of benzyl alcohol on high-surface-area Ru/TiO_2 catalysts

Van Hung Mac[1,2], Katja Neubauer[1], Ali M. Abdel-Mageed[1] ([1]Germany, [2]Vietnam)

FINE-P-018

Prins cyclisation of isoprenol and isovaleraldehyde over micro- and mesoporous catalysts for production of Florol®

P. Mäki-Arvela[1], B. Lasne[1], Z. Vajglová[1], N. Kumar[1], A. Aho[1], M. Peurla[1], J. Sánchez-Velandia[2], C. Mondelli[3], J. Pérez-Ramirez[3], D. Yu. Murzin[1] ([1]Finland, [2]Colombia, [3]Switzerland)

FINE-P-019

Layered double hydroxides as catalysts for baeyer-villiger oxidation

O. Gorlova, **I. Paterová**, J. Kocík, K. Peroutková, Z. Tišler (Czechia)

FINE-P-020

Isolated copper sites on graphite nanoplatelets for ullman-type C-O coupling

V. Ruta, M. A. Bajada, G. Vilé (Italy)

FINE-P-021

Simulation based design of simulated moving bed reactor for the production of 2-phenyl Ethyl acetate

K. Satya Pal Singh, S. M. Mahajani (India)

FINE-P-022

MoO_3-MCM materials as effective catalysts in prins reaction of isoprenol with butanal

E. Vrbková, L. Dolejšová Sekerová, **E. Vyskočilová** (Czechia)

FINE-P-023

Deoxygenative silylation of C(sp^3)–O bonds with hydrosilane by supported-gold nanoparticles catalyst

Y. Yasui, M. Doi, H. Miura, T. Shishido (Japan)

Gas to liquids conversion

GTL-P-001

Investigation of the deactivation mechanism of iron-based catalysts for use in low-temperature Fischer-Tropsch-Synthesis

S. Bredow, E. Reichelt, M. Jahn, (Germany)

GTL-P-002

Cobalt-based Fischer-Tropsch synthesis catalysts for the conversion of CO_2-rich syngas

B. C. A. de Jong, H. H. van de Bovenkamp, G. Boer, L. Rohrbach, G. L. Bezemer, H.J. Heeres, J. Xie (Netherlands)

GTL-P-003

Bench-scale FT crude production from CO_2 using a two-step rWGS-FT process

C. Frilund, P. Simell (Finland)

GTL-P-004

Balancing between OCM catalyst deactivation and activity through design and controlled composition

B. Huang, J. Wang, D. Shpasser, **O. M. Gazit** (Israel)

GTL-P-005

Bifunctional catalysts for CO hydrogenation to fuels

V. Heczko[1], L. A. Silva[2], R. M. B. Alves[2], M. Schmal[2], R. Giudici[2], P. H. C. Camargo[1] ([1]Finland, [2]Brazil)

GTL-P-006

Aqueous-phase partial oxidation of methane with hydrogen peroxide over carbon-coated Fe-ZSM-5 catalysts

S. Hwang, M. Kwon, J. Hwang, E. D. Park (South Korea)

GTL-P-007

Design of nickel / samarium doped ceria for catalytic partial methane oxidation

Andrew C. Chien, Corinna C. Chi (Taiwan)

GTL-P-008

Aqueous-phase partial oxidation of methane over Fe-ZSM-5 with in situ generated H_2O_2 over Pd/C

J. Kang, E. D. Park (South Korea)

GTL-P-009

Determining bifunctionality of mesoporous Co/Zeolite catalyst for direct synthesis of liquid fuel by Fischer-Tropsch reaction

S. Kim (South Korea)

GTL-P-010

Direct CO_2 hydrogenation via Fischer-Tropsch synthesis over cobalt catalyst supported on La-doped Cerium Oxide

H. Konno, S. Harada, A. Yanagita, K. Tashiro, M. Ogura, S. Satokawa (Japan)

GTL-P-011

Optimization of dual-bed catalyst system for linear alpha olefin production in alcohol dehydration

Y. Kim, U. Jung, D. H. Chun, M. H. Youn, K. B. Lee, **K. Y. Koo** (South Korea)

GTL-P-012

Pre-carburization effect in hybrid catalytic system: Optimistic process development for gas to liquid fuel production

M. S. Kutubi, K. Sato, Y. Shimura, S. Inagaki, Y. Kubota, K. Nagaoka (Japan)

GTL-P-013

Catalysts of Zr-based metal-organic framework applied in the direct oxidation of methane to methanol

T. N. V. S. Ferreira, **J. F. Gomes**, J. M. Assaf (Brazil)

GTL-P-014

Measurements of spatially-resolved concentration profiles on Fischer-Tropsch synthesis in a fixed-bed compact profile reactor

J. Mettke, F. Wolke, S. Hilbig, E. Reichelt, M. Jahn (Germany)

GTL-P-015

The conversion of methane to methanol with in situ generated H_2O_2

F. Ni, R. J. Lewis, G. J. Hutchings (United Kingdom)

GTL-P-016

Heat transfer intensification in tubular reactors for the Fischer-Tropsch synthesis by adopting conductive cellular internals: a pilot-scale study

M. Panzeri, **C. G. Visconti**, G. Groppi, E. Tronconi (Italy)

GTL-P-017

Selective production of hydrocarbon via Fischer-Tropsch synthesis using bifunctional iron-zeolite catalysts

G. B. Rhim, K. Y. Kim, M. H. Youn, D. H. Chun (South Korea)

GTL-P-018

In situ and ex situ poisoning studies with sulphur-containing molecules using a Cu/ZnO/Al_2O_3 methanol synthesis catalyst

P. Schwiderowski, K. Nikolaidis, P. Telaar, P. Diehl, M. Muhleri (Germany)

GTL-P-019

Formic acid dehydrogenation catalyzed by Molybdenum-Sulfur Clusters

C. A. M. Stein[1], M. G. Blanco[2], E. Guillamón[2], I. Sorribes[2], H. Junge[1], R. Llusar[2], M. Beller[1] ([1]Germany, [2]Spain)

GTL-P-020

3D-printed catalysts for Fischer-Tropsch reaction and the impact of Co impregnation method

B. Sutens[1], E. Boymans[2], S. Grootjes[2], J. Lefevere[1] ([1]Belgium, [2]Netherlands)

GTL-P-021

Plasma-catalytic CO_2 hydrogenation to methanol at room temperature and ambient pressure

Y. Wang, X. Tu (United Kingdom)

GTL-P-022

Direct CO_2 hydrogenation via Fischer-Tropsch synthesis over alkali-less iron carbide catalyst

A. Yanagita, H. Horikoshi, S. Furuya, K. Tashiro, S. Satokawa (Japan)

GTL-P-023

Overcoming the fundamental limitation of electrochemical methane-to-alcohol conversion via outsourced atomic oxygen – A theoretical perspective

S. Lee, J. Lee, J. H. Moon, **J. S. Yoo** (South Korea)

Photo-driven processes for fuel and organic synthesis

PHDP-P-001

Photocatalyzed trifluoromethylthiolation of activated alkenes with CF_3SO_2Na

F. Chen, **W. Yi** (China)

PHDP-P-002

CO_2 hydrogenation with plasmonic nanomaterials: Black gold and nickel nitride nanosheets

R. Verma, S. Singh, V. Polshettiwar (India)

PHDP-P-003

The influence of exposed facets of TiO_2 crystals on photocatalytic reduction of nitroaromatic compounds

W. Adamowicz, M. Kobielusz, W. Macyk (Poland)

PHDP-P-004

H_2 Production by plastics photoreforming using SiC-g-C_3N_4 composites

M. T. A. Iapichino, S. A. Balsamo, R. Fiorenza, S. Scirè (Italy)

PHDP-P-005

α-Fe_2O_3–'CuO' nano-heterostructure for efficient photoelectrocatalytic water oxidation using a Cu-complex

T. Benkó[1], S. Shen[2], M. Németh[1], D. Lukács[1], J. S. Pap[1] ([1]Hungary, [2]China)

PHDP-P-006

Induced-aggregates in P25 photocatalyst: An unexplored approach to reduce the noble metal co-catalyst content

E. Bu, X. Chen, C. López-Cartes, A. Monzón, J. J. Delgado (Spain)

PHDP-P-007

Sunlight-powered reverse water gas shift reaction catalyzed by plasmonic Au/TiO_2: distinguishing between photothermal and non-thermal contributors

P. Buskens[1,2], F. Sastre[1], M. Xu[1], N. Meulendijks[1], J. van den Ham[1], J. Rohlfs[1], A. Sanderse[1], R. Habets[1], P. Martínez Molina[1] ([1]Netherlands, [2]Belgium)

PHDP-P-008

Bismuth-based perovskites as photocatalysts for amines oxidation

J. C. Lopes[1], J. Albero[2], M. J. Sampaio[1], C. G. Silva[1], H. García[2], J. L. Faria[1] ([1]Portugal, [2]Spain)

PHDP-P-009

Plasma assisted photocatalytic non-oxidative coupling of methane over FeNi-layer double hydroxides

G. De Felice[1], S. Li[1], F. Gallucci[1] and E. Rebrov[1,2] ([1]Netherlands, [2]UK)

PHDP-P-010

Photo-thermal catalysis as a tool to investigate the reverse water gas shift reaction over Cu/Al_2O_3

K. Lorber[1], J. Sancho-Parramon[2], J. Zavašnik[1], I. Arčon[1], A. Prašnikar[1], B. Likozar[1], **P. Djinović**[1] ([1]Slovenia, [2]Croatia)

PHDP-P-011

New organic photocatalysts for homogeneous and heterogenous photooxidations in batch and flow reactors

S. Eeckhout, A-S. Léonard, N. Body, C. Lefebvre, A. Y-H Tsai, P. Bianchi, J-C. Monbaliu, O. Riant, S. Hermans (Belgium)

PHDP-P-012

Light-induced production of hydrogen peroxide from saccharides using carbon nitride immobilized on a 3D-printed structure

M. J. Sampaio, R. A. Borges, M. F. Pedrosa, Y. A. Manrique, C. G. Silva, A. M. T. Silva, **J. L. Faria** (Portugal)

PHDP-P-013

Photo-themocatalytic CO_2 methanation over Ru nanoparticles supported on metal oxides

M. Imizcoz, F. Almazán, I. Pellejero, L. M. Gandía (Spain)

PHDP-P-014

TiO2 decorated with metallic nanostructures for hydrogen production. Is the SPR involved in the mechanism of its activity?

A. Jakimińska, K. Spilarewicz, W. Macyk (Poland)

PHDP-P-015

Reductive production of H_2O_2 over metal-free WO_3 Photocatalyst at elevated temperatures

K. Kamitani, A. Tanaka, H. Kominami (Japan)

PHDP-P-016

Breaking selectivity limits in the photocatalytic oxidation of methane to formic acid: Contribution of thermocatalysis

D. Hu, A. Addad, K. Ben Tayeb, V. V. Ordomsky, **A. Y. Khodakov** (France)

PHDP-P-017

Glycerol as an excellent hydrogen and electron source for photocatalytic hydrogenation of nitrobenzene in water

H. Kominami, K. Onogi, A. Tanaka (Japan)

PHDP-P-018

Mechanistic study of glucose photoreforming over TiO_2-based catalysts for H_2 production

L. Lan, C. Hardacre (United Kingdom)

PHDP-P-019

The influence of carbon spheres addition on photoactivity of TiO_2 and ZnO

A. W. Morawski, K. Ćmielewska, E. Kusiak-Nejman, M. Gano, I. Pełech, J. Kapica-Kozar, U. Narkiewicz (Poland)

PHDP-P-020

A Pt/TiO_2/SiO_2/Si structured microreactor for the photogeneration of H_2

J. Llorca, D. Vega, L. Soler, A. Rodríguez (Spain)

PHDP-P-021

An Ab-Initio study of metal Oxo-Trimers nanoporous MOF building units for the catalytic conversion of CO_2 to methanol

P. Lyu[1,2], G. Maurin[2] ([1]China, [2]France)

PHDP-P-022

Low-temperature NH_3 decomposition using photo-thermal catalysis

D. Mateo[1], A. Sousa[1], L. Garzon-Tovar[1], N. Morlanes[1], J. C. Navarro[1], X. Wang[1], K. Brennan[2], M.Garcia-Melchor[2], J. Ruiz-Martinez[1], J. Gascon[1] ([1]Saudi Arabia, [2]Ireland)

PHDP-P-023

Photoreforming of biomass substrates with non-noble Metal/TiO_2 Photocatalysts

M. Bouchabou, A. Brocani-Pasino, S. Belda-Marco, M.C. Román-Martínez, **M. A. Lillo-Ródenas** (Spain)

PHDP-P-024

Photothermal conversion of CO_2 to methane utilizing Ru/TiO_2

K. Wenderich, A. Huijser, **G. Mul** (Netherlands)

PHDP-P-025

Dual photoredox catalysis toward alkoxy radicals

A. Ondrejková, R. Lindroth, G. Hilmersson,C. J. Wallentin (Sweden)

PHDP-P-026

Direct photocatalytic synthesis of acetic acid from methane and CO at ambient temperature using water as oxidant

C. Dong[1], M. Marinova[1], O. Safonova[2], M. Corda[1], Y. Zhou[1], A. Y. Khodakov[1], **V. Ordomsky[1]** ([1]France, [2]Switzerland)

PHDP-P-027

Photocatalytic water splitting over reduced TiO_2

P. Özdemir, R. Yıldırım (Turkey)

PHDP-P-028

An optofluidic planar microreactor for photocatalytic water splitting reaction under visible light illumination

L. P. R. Pala, N. R. Peela (India)

PHDP-P-029

Photosensitised PCET mediated β-Scission of alcohols for addition reactions

Y. Patehebieke, H. P. Bryce-Rogers, C. J. Wallentin (Sweden)

PHDP-P-030

Photo-assisted H_2 production and hydrogenation reactions

Y. Peng,[1] J. Albero,[2] H. Junge,[1] H. Garcia,[2] M. Beller[1] ([1]Germany, [2]Spain)

PHDP-P-031

Photocatalytic selective oxidative cleavage of β-O-4 linkages of a lignin based model compounds by Novel TiO_2 nanomaterials

A. Qayyum, D. A. Giannakoudakis, D. Lomot, J. C. Colmenares (Poland)

PHDP-P-032

Harvesting plasmonic effects for H_2 evolution and CO_2 reduction reactions

F. Rathmann, I. Abdelsalam, A. L. Reznichenko, M. Reinikainen, P. H. C. Camargo (Finland)

PHDP-P-033

Photoelectroreduction of nitrates to ammonia in hybrid plasmonic nanocatalysts

V. R. Silveira, R. Bericat-Vadell, J. Sá (Sweden)

PHDP-P-034

Photocatalytic CO_2 conversion on edge-truncated cubic Cu_2O crystal with controlled photogenrated charge carrier dynamics

A. K. Sahu[1,2], M. Pokhriyal[1], X. S. Zhao[2], S. Upadhyayula[1] ([1]India, [2]Australia)

PHDP-P-035

Characterization and evaluation of photolabile cage substrates towards enabling time-resolved diffraction-based studies of ba_3-type cytochrome c oxidase

E. Sandelin, J. Johannesson, O. Wendt, G. Brändén, R. Neutze, C.-J. Wallentin (Sweden)

PHDP-P-036

A fundamental approach to the design and engineering of active photoelectrodes for solar water splitting

T. Tabari, M. Kobielusz, W.Macyk (Poland)

PHDP-P-037

Methane oxidative coupling on Au-TiO_2 catalyst: DFT studies

V. Kaipanchery, **R. Tokarz-Sobieraj**, D. Rutkowska-Zbik (Poland)

PHDP-P-038

Photo-thermo-catalytic properties of heteropolyacid-TiO_2 systems

A. Micek-Ilnicka, M. Synowiec, M. Radecka, P. Niemiec, **R. Tokarz-Sobieraj** (Poland)

PHDP-P-039

Improvement of photoelectrocatalytic activity and stability of WO_3 for oxygen evolution by loading brownmillerite Ca_2FeCoO_5 as a cocatalyst

E. Tsuji, Y. Degami, H. Okada, S. Suganuma and N. Katada (Japan)

PHDP-P-040

The role of water at the interface with TiO_2 for H_2 photoproduction

R. Verduci[1], F. Creazzo[2], G. Cassone[1], F. Tavella[1], C. Ampelli[1], S. Luber[2], S. Perathoner[1], G. Centi[1], G. D'Angelo[1] ([1]Italy, [2]Switzerland)

PHDP-P-041

Valorisation of glycerol wastewater for hydrogen production at pilot scale under natural radiation

J. G. V. Llamosas, A. Ruiz-Aguirre, S. Malato (Spain)

PHDP-P-042

Photocatalytic water splitting using strontium titanate and bismuth vanadate in twin photoreactor to simultaneous separation of H_2 and O_2

Y.-G. Lee[1], **J. C. S. Wu**[1], M. M. Kržmanc[2] ([1]Taiwan,[2]Slovenia)

PHDP-P-043

Synthesis of $Co_2P/Cd_{0.9}Zn_{0.1}S$ by electrostatic attraction for enhancing H2 Evolution

Y. Yang, X. Zheng, C. Cai (China)

Experiment and theory of catalytic reactions

REAC-P-001

Achieved deuterated difluoromethanethiolation of aldehydes via deuterated benzenesulfonothioic acid, difluoromethyl ester by visible light catalysis

C. Hu, W. Yi (China)

REAC-P-002

Lifetime enhancement of methanol-to-olefins process via formaldehyde elimination over Ca species

J. Luo, T. Xiao, C. Liu, Y. Pan (China)

REAC-P-003

Palladium-catalyzed allylation of N-CF_3 secondary amines

L. Wang, W.Yi (China)

REAC-P-004

Role of formaldehyde in promoting aromatic selectivity during methanol conversion over gallium-modified zeolites

T. Xiao, W. Wen, Ch. Liu, Y. Pan (China)

REAC-P-005

Copper-catalyzed peroxidation of cyclohexane in liquid phase: an elucidation of mechanism and cycle stability of Cu(I) and Cu(II) in tetradentate N,N,N,N-Cu complexes

M. A. Rasheed[1], E. Aunan[1], N. Cao[1], A. Nova[1], I. Gerz[1,2], R. J. Rama[1], M. Signorile[3], G. Deplano[3], S. Bordiga[3], U. Olsbye ([1]Norway, [2]Germany, [3]Italy)

REAC-P-006

Unravelling the reactivity of metastable active sites in methane dehydroaromatization

I. Ahangar, M. A. Haider (India)

REAC-P-007

Performance of a Mn catalyst for the ozone oxidation of methyl ethyl ketone and by-products formation at room temperature

H.-Y. Ahn, J.-S. Jeon, J. Song (South Korea)

REAC-P-008

Amino-modified ruthenium nanoparticles as efficient and selective catalysts for the partial and complete reduction of quinolines

A. A. Alharbi, T. W. Chamberlain, J. G. Knight, S.Doherty (UK)

REAC-P-009

Kinetic modeling based on complex reaction theory for catalytic deep desulfurization over modified UiO-66 metal organic framework

B. Barghi, T. Mõistlik, O. Järvik, A. Niidu (Estonia)

REAC-P-010

First principles investigation of interwoven electronical and energetical properties of P_t1O_x/CeO_2 single atom catalysts towards CO oxidation

S. Bernart, J. Jelic, F. Studt (Germany)

REAC-P-011

Magnetism in catalysis: Pt_3M (111) (M=Fe, Co and Ni) as case study

C. Biz, M. Fianchini, J. Gracia (Spain)

REAC-P-012

Interpretation of transient effects on NH_3 oxidation over Pt/Al_2O_3: an experimental and modelling study for automotive applications

R. Bono, R. Uglietti, G. Keitl, A. Scheuer, A. Dreizler, M. Votsmeier (Germany)

REAC-P-013

Advancing alkaline organic electroreductions by tuning H adsorption on the cathode

A. Ciotti[1], T. Li[2], M. Rahaman[2], Y. W. See[2], A. Vijeta[2], E. Reisner[2], M. García-Melchor[1] (Ireland)

REAC-P-014

Theoretical modeling of pathways for the transformation of glucose and fructose to levulinic acid using sulfuric acid

A. Kącka-Zych, N. Sobuś, **I. Czekaj** (Poland)

REAC-P-015

Reactivity of vanadium V(II) cationic sites in Si-rich zeolites

S. Sklenak, **J. Dedecek**, A. M. Kornas, E. Tabor (Czechia)

REAC-P-016

Ketonisation of organic acids over ZrO_2-based catalysts for biomass valorisation: The role of surface acid-base sites

M. Delarmelina, G. Deshmukh, H. Manyar, C. R. A. Catlow (UK)

REAC-P-017

A revised paring mechanism for the MTO-process in acidic zeolites

A. E. Enss, P. Huber, P. N. Plessow, F. Studt (Germany)

REAC-P-018

Relating WGS performance to Oxygen Storage Capacity (OSC) under realistic feed

B. M. Eropak, G. Öztürk, B. S. Çağlayan, A. E. Aksoylu (Turkey)

REAC-P-019

Ethane dehydrogenation in the presence of CO_2 over Co/BEA catalyst: Effect of cobalt precursors and catalytic performances

S. Essid, R. Bulánek (Czechia)

REAC-P-020

Cu-based double metal cyanides for phosphoramidate synthesis via aerobic oxidative coupling of amines and phosphites

A. Fonseca, K. Janssens, Ca. Marquez, D. De Vos (Belgium)

REAC-P-021

Mechanistic DFT study of isobutanol to butenes transformations catalyzed by acidic zeolites

M. Gešvandtnerová[1], T. Bučko[1], P. Raybaud[2], C. Chizallet[2] ([1]Slovakia, [2]France)

REAC-P-022

Hydrogenation of Acetone to Isopropanol over Fixed-Bed Raney-Type Nickel Catalyst

Y. Gherib, P. Kukula, J. Padevět (Czechia)

REAC-P-023

Quantum chemical calculations of $Pt_nD_{2n}^-$ clusters

S. Gojare, D. Bumüller, M.l Kraft, D. Schooss, K. Fink (Germany)

REAC-P-024

Development of HTC-supported non-noble metal catalysts for ammonia reforming

M. Guci, F. Rümmele, F. Nestler, M. Poschmann, R. Szolak (Germany)

REAC-P-025

The role of surface silanols in the initiation of olefin metathesis on MoO_x/SiO_2 and WO_x/SiO_2 catalysts: a computational perspective

J. Handzlik, M. Gierada, K. Kurleto (Poland)

REAC-P-026

Analysis of the adsorption rate on catalysts for ammonia synthesis

S. I. Hansen, A. D. Jensen, J. M. Christensen (Denmark)

REAC-P-027

TiO_2-supported Au nanoparticles for photocatalytic H_2 evolution: A computational study

A. Harshan, T. Le Bahers, C. Michel (France)

REAC-P-028

Mechanistic insights into the Ru-catalyzed hydrogenolysis of methanol

N. M. Sackers[1], J. Nikodemus[1], R. Palkovits[1], P. Sautet[2], **P. J. C. Hausoul**[1] ([1]Germany, [2]USA)

REAC-P-029

Mechanism of NH_3 synthesis on Fe_3Mo_3N

M. D. Higham, C. D. Zeinalipour-Yazdi, J. S. J. Hargreaves, C. R. A. Catlow (UK)

REAC-P-031

Distance effect in bifunctional metal-acid catalysis

K. Cheng[1,2], Y. Wang[1], K. P. de Jong[2] ([1]China, [2]Netherlands)

REAC-P-032

Kinetic & mechanistic study of the complete oxidation of volatile organic compounds (VOCs) on Co_3O_4 catalysts

Y. Georgiou[1], N. Apostolopoulos[1], P. Dimitropoulos[1], M. Smyrnioti[1], C. Zhang[2], A.M. Efstathiou[2], **T. Ioannides**[1] ([1]Greece, [2]Cyprus)

REAC-P-033

DFT study of acetaldehyde (AcH) and methyl acetate (MeOAc) formation on $HCo(CO)_4$ catalyst

J. Jelic, K. A. Sheikh, T. A. Zevaco, F. Studt (Germany)

REAC-P-034

Mechanistic Insights into the catalytic hydrogenation of muconic acid in aqueous phase

K. V. Haseena, M. Ali Haider, **H. Kadavath** (India)

REAC-P-035

The efficiency of nickel-containing catalysts for the transformation of carbon monoxide and methane into graphite-like carbon allotropes

A. Kaporov, O. Shtyka, R. Ciesielski, A. Kedziora, W. Maniukiewicz, J. Albinska, T. Maniecki (Poland)

REAC-P-036

Automated multiscale simulation environment – What that's about?

Kamila Kaźmierczak[1], Albert Sabadel-Rendón[2], Santiago Morandi[2], Florian Euzenat[3], Daniel Curulla-Ferré[1], Núria López[2] ([1]Belgium, [2]Spain, [3]France)

REAC-P-037

Decoding the selectivity control of Zeolitic-Imidazolate Framework-8 in the conversion of furanics through DFT

T.-H. T. Le, M. A. Ortuño (Spain)

REAC-P-038

Changes of oxygen species on the surface of manganese catalysts and their effects on acetaldehyde ozonation

Y.-K. Lee, E.-Ch. Doh, J.-P. Cho, J. Song (South Korea)

REAC-P-039

Ethanol conversion to 1-butanol by heterogeneous catalysis using Li-Al metal mixed oxides dopped with transition metal

J. Malina, M. Hájek1, K. Frolich (Czechia)

REAC-P-040

Kinetic modeling of anisole hydrodeoxygenation for high aromatic selectivity over Ru/TiO_2 catalysts

V. Martínez Jiménez, J. A. de los Reyes, C. G. Mendoza (Mexico)

REAC-P-041

First-principles insights into the reduction half cycle of the LT NH3-SCR over Cu-CHA under wet conditions

G. Contaldo, M. Ferri, C. Negri, **I. Nova**, M. Maestri, E. Tronconi (Italy)

REAC-P-042

Utilizing CO_2 and excess hydrogen from FP-PEMFC system by CO_2 methanation over $Ni\text{-}La/Al_2O_3$ catalyst

C. Öztepe, B. S. Çağlayan, A. E. Aksoylu (Turkey)

REAC-P-043

Dry reforming of methane under microwave-assisted heating: Operando thermal analysis

J. Palomo, D. Cette, A. Urakawa (Netherlands)

REAC-P-044

Molecular insight into Propane dehydrogenation catalysed by Pt sub-nanoclusters on g-C3N4.

J. Pan[1], E. Strugovshchikov[1], A. Salom[1], J. J. Carbó[1], D. Curulla-Ferré[2], K. Kaźmierczak[2], C. Godard[1], **J. M. Ricart**[1] ([1]Spain, [2]Belgium)

REAC-P-045

Unraveling the oxidative redispersion of Pt nanoparticles supported on ceria via an explorative DFT study

A. Salcedo, D. Loffreda, C. Michel (France)

REAC-P-046

Selective oxidation of glucose with hydrogen peroxide: Structure sensitivity of the apparent activation energy

O. Reinsdorf[1], C. Pellegrin[1,2], Ch. Schmidt[1], M. Alvear[1], K. Eränen[1], D. Murzin[1], **T. Salmi**[1] ([1]Finland, [2]France)

REAC-P-047

Acetonitrile as novel promoter for palladium supported catalysts in the direct hydrogen peroxide synthesis

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REAC-P-048

Methylcyclohexane catalytic cracking over Y zeolite. A computational study

A. Sanchez, J. F. Espinal, S. Ramirez (Colombia)

REAC-P-049

Development of microowave reactors for high temperature catalytic reaction

M. Scanferla, P. Biasi, P. Canu (Italy)

REAC-P-050

Assessing the role of oxygen vacancies for N_2O decomposition over $CaMn_1$-$xFe_xO_{3-\delta}$ Perovskites

A. Serrano-Lotina[1], E. Mastronardo[2], P. Ávila[1], I. J. Villar-García[1], L. M. Nogal[1], A. Bayón[1], S. Haile[3], J. M. Coronado[1] ([1]Spain, [2]Italy, [3]USA)

REAC-P-051

Pd nanoclusters confined in functionalised metal-organic frameworks: selective, active and stable catalysts for hydrogenation reactions

D. Decarolis[1], J. King[1], L. Zhang[2], J. Armstrong[1], M. Hirscher[2], A. Beale[1], A.-M. Elena[1], S. Meloni[3], **P. Á. Szilágyi**[4] ([1]UK, [2]Germany, [3]Italy, [4]Norway)

REAC-P-052

Manipulation of the chemical reactivity of surfaces with 3d metals: New perspective on spin degrees of freedom

S. Bhattacharjee[1], S. Ram[1], S.-Ch.l Lee[1,2], **S. Tomar** ([1]India, [2]South Korea)

REAC-P-053

Size effects in transition metal catalyzed ammonia decomposition

J. Wang, S. Chen, M. Behrens (Germany)

REAC-P-054

Reactions of organic molecules at the water/platinum interface: Parametrization of density functional tight-binding (DFTB)

Q. Wang, T. Niehaus, S.N. Steinmann (France)

REAC-P-055

Kinetics for the dimerization of ethylene to butenes over the Ni-Al supported silica based catalysts

J. Kim, Ch.-W. Shin, K.-E. Jeong, Ch.-U. Kim, **Y.-S. Yoon** (South Korea)

REAC-P-056

Iron impregnation on activated carbon for enhancing removal of humic acid in water

J. H. Kweon, S. K. Ahn, W. J. Song (South Korea)

REAC-P-057

Mathematical modeling of response dynamics of SnO2-based gas sensors and comparison with the experiment

B. Atman, Y. Uludağ, G. Karakaş (Turkey)

Surface science & atomic level models: experiment and theory

SURF-P-001

Enhanced stability of sub-nanometric Iridium decorated graphitic carbon nitride for H_2 production upon hydrous hydrazine decomposition

S. Bellomi[1], I. Barlocco[1], X. Chen[2], J. J. Delgado[2], R. Arrigo[3], N. Dimitratos[1], A. Roldan[3], A. Villa[1] ([1]Italy, [2]Spain, [3]United Kingdom)

SURF-P-002

Epitaxial growth of ultrathin CoOx films and their interaction with water

M. Cieminski, M. C. Schmidt, J. Smyczek, P. Hubert, S. Schauermann (Germany)

SURF-P-003

The time-resolved catalytic activity of 2D material-supported catalysts at the single active site level

I. Danylo, L. Koláčný, V. Svobodová Pavlíčková, S. Rimpelová, T. Hartman, M. Pitínová, M. Veselý (Czechia)

SURF-P-004

Ni-Mo nanoparticle generation by spark discharge

J. Elmroth Nordlander[1], M. Bermeo[1], P. Ternero[1], D. Wahlqvist[1], T. Schmeida[2], S. Gericke[1], F. Hallböök[1], M. E. Messing[1], M. Ek[1], J.-M. Hübner[1], S. Blomberg[1] ([1]Sweden, [2]Germany)

SURF-P-005

Anharmonic correction to the adsorption free energy by machine learned force field-based thermodynamic integration

T.-N. Huynh[1], D. Sharapa[1], T. Bučko[2], F. Studt[1] ([1]Germany, [2]Slovakia)

SURF-P-006

Role of Na^+ on the stability of zeolite-supported molybdenum sulphide clusters using ab initio calculations

J. Iyer[1,2], T. S. Khan[1], D. J. Searles[2], M. A. Haider[1], R. Khare[3], J. Lercher[3] ([1]India, [2]Australia, [3]Germany)

SURF-P-007

Theoretical studies investigating the mechanism of methanol formation over a Cu/ZnO based catalyst

D. A. Jurado A.[1], M. D. Higham[2], C. R. A. Catlow[2], I. Krossing[1] ([1]Germany, [2]United Kingdom)

SURF-P-008

The effect of Ethylene-Vinylacetate(EVA) on the properties of the UHMWPE fiber-reinforced composite

E. H. Kang, J.H. Kim, N.Y. Jang, S.G. Lee (South Korea)

SURF-P-009

Computational and surface science studies on the properties of In_2O_3 for methanol synthesis

M. M. Kauppinen[1*], S. M. Gericke[1], M. Wagner[2], M. Riva[2], G. Franceschi[2], A. Posada-Borbòn[1], L. Rämisch[1], A. B. Preobrajenski[1], S. Pfaff[1], A. M. Imre[2], S. Blomberg[1], L. R. Merte[1], J. Zetterberg[1], U. Diebold[2], E. Lundgren[1], H. Grönbeck[1] ([1]Sweden, [2]Austria)

SURF-P-010

Molecular model catalysts of atomically dispersed platinum on silica

L. Kopietz, K. Köhler (Germany)

SURF-P-011

Computational investigations into the direct synthesis of higher alcohols from syngas on copper–iron catalysts

V. Korpelin, B. A. Baraiya, H. H. Ibrahim, T. Kiljunen[1], K. Honkala (Finland)

SURF-P-012

Electric Double Layer effect on outer-sphere benzyl halides electro-reduction mechanism

A. Kramarenko[1], D. Sharapa[1], E. Pidko[2], F. Studt[1] ([1]Germany, [2]The Netherlands)

SURF-P-013

One-step steam reforming of methane to methanol by plasma catalysis: experiments and DFT modelling

S. Li[1*], Y. Hao[2], Y. Yi[2*], K. M. Bal[1], N. Gerrits[1], E. C. Neyts[1], A. Bogaerts[1] ([1]Belgium, [2]China)

SURF-P-014

Carbonyl surface modification of Al_2O_3 to synthesize tailored noble metal catalytic sites: from single atoms to sub-nano clusters

Y.-C. Lin, J. S. Luterbacher (Switzerland)

SURF-P-015

Metal oxide-based electrocatalyst for CO_2 electroreduction – Investigating the catalytic surface via pourbaix diagrams

R. Lipin, M. Vandichel (Ireland)

SURF-P-016

Water dynamics and p-cresol co-adsorption in (alumino)silicate CAN zeolite from machine learning potentials and DFT

D. Nováková, A. Erlebach, L. Grajciar (Czechia)

SURF-P-017

A systematic computational exploration of bimetallicity and mechanical strain concepts for N_2 activation

K. Polychronopoulou, O. Elmutasim (United Arab Emirates)

SURF-P-018

Catalytic materials screening by first-principles and machine learning: A case of CO_2 utilization

S. Praserthdam, P. Praserthdam (Thailand)

SURF-P-019

Mechanistic insights on the catalytic hydrogenation of furfural derivatives on Pd and Ru surfaces

M. Quayle, M. Pera-Titus, A. Roldan (United Kingdom)

SURF-P-020

Rate determining steps and development of rate equation for oxidative dry reforming of methane over supported Ni catalyst

A. S. Russel, S. Gupta, G. Deo (India)

SURF-P-021

Theoretical study of local and global deformation of H-ZSM-5

A. Seremak, T. Fjermestad, S. Svelle (Norway)

SURF-P-022

Computational views on Copper Dimer

D. Sharapa, K. Fink, C. Wöll, F. Studt (Germany)

SURF-P-023

Ru nanoparticles modelling and simulation for ammonia synthesis

L. Skubic, S. Gyergyek, B. Likozar, M. Huš (Slovenia)