# EUROPACAT

## 2025 / TRONDHEIM, NORWAY

*Mastering the Force of Catalysis*


# THE PROGRAM

**16th European Congress on Catalysis**

August 31th - September 5th, 2025

# Knowledge grows

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# Contents


Welcome address ..... 5
Organizers ..... 7
Chairs and Committees ..... 8
Congress area map ..... 9
Plenary speakers ..... 10
Keynote speakers ..... 12
YEuCat events ..... 14
Social events ..... 16
2025 EFCATS Awards ..... 18
Scientific program ..... 19
- Sunday August 31, 2025 ..... 19
- Monday September 1, 2025 ..... 20
- Tuesday September 2, 2025 ..... 30
- Wednesday September 3, 2025 ..... 40
- Thursday September 4, 2025 ..... 44
- Friday September 5, 2025 ..... 60

Poster sessions ..... 61
- Monday September 1 ..... 61
- Tuesday September 2 ..... 75

EuropaCat 2027 ..... 90
Exhibition ..... 91
Sponsors ..... 92

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# Welcome address

*Hilde Johnsen Venvik, Chair of EuropaCat 2025*

Welcome to the *16th European Congress on Catalysis* in Trondheim, Norway, organized under the auspices of the *European Federation of Catalysis Societies*, EFCATS. We very much look forward to hosting about 1200 scientists and professionals. Please find on the following pages an exciting program on various fundamental and applied topics in catalysis. It shows that our community works hard to advance chemical insight and chemical reaction engineering through "*Mastering the Force of Catalysis*". The development of the scientific program has been a joint effort between the *Nordic (Denmark, Finland, Sweden, Norway) Catalysis organizations*, with the help of special session chairs, the EFCATS Council, and many more in the abstract reviewing.

EuropaCat 2025 are thrilled to have seven distinguished plenary speakers and sixteen exciting Keynote Lecturers, of which several are EFCATS Award recipients. After receiving 1500 abstracts, the program now contains about 400 standard and short oral presentation and 700 posters. Altogether, these contributions will establish the present state-of-the-art in catalysis. Swedish scientist Jöns Jacob Berzelius is known to have coined the term "catalysis" yet without fully understanding is underlying driving forces. This we do better today, but our slogan also points to our field still sitting somewhere between empiricism and prediction by laws of nature.

Early career scientists have always been particularly welcome at the biannual EuropaCat, and we therefore host several special YEuCat events at the 2025 edition. We are extremely grateful to our sponsors and would like to point out that a significant part of their contribution has been used to defray participant costs for PhD students. The industry's contribution to the program is also of great value, and we hope that the participants can appreciate their perspectives, suggestions and efforts, as well as the plethora of technologies, equipment and services on display in the exhibition.

We hope that you will engage deeply in the program by presenting, listening, discussing and commenting. Disagreement is sometimes necessary, and even fruitful, but remember to be *respectful of your peers*! Please also be on time, finish on time and adhere to the schedules and instructions given by our Conference Crew. They are committed to ensure that you are comfortable and safe. In times when global politics and war threatens sustainable development, democracy and trust in societies, we hope that the special type of *friendship* built on sharing facts, knowledge, and ideas will endure. It is reassuring to experience that most in the catalysis community shares NTNU's vision *Knowledge for a better world*.

Lastly, and despite the somewhat overwhelming program, we hope that you get the chance to appreciate our vibrant little city Trondheim and its outdoors. Several sights and nice places are within short reach of the Clarion venue, with *Nidarosdomen* itself included to the welcome event. Enjoy some local food and drinks, a walk along the river or the seaside, or even a dip in the ocean if you need to refresh - and have a good time with old and new catalysis friends!

**Johnson Matthey** are catalysing the net zero transition by helping to decarbonise the chemical industry and enabling sustainable energy production. Through their expertise in process technology and catalysis, they enable the efficient creation of chemicals and fuels that benefit millions of people every day. As the world is looking for more sustainable feedstocks, their technologies are largely feedstock agnostic, opening up enormous growth potential.

JM Johnson Matthey

# Organizers

**EFCATS (European federation of Catalysis Societies)**

**The Nordic Catalysis Societies:**

**The Catalysis Group of the Norwegian Chemical Society**

**The Swedish Catalysis Society**

**The Finnish Catalysis Society**

**The Danish Catalysis Society**

**KinCat Gemini Centre - Kinetics and Catalysis at NTNU and SINTEF**

# Chairs and Committees

EuropaCat 2025 is an event made possible through joint effort from the Nordic catalysis societies

**Congress Chair:**
Professor Hilde Johnsen Venvik,
*Department of Chemical Engineering, NTNU, Norway*

**Congress Vice-chairs:**

Dr. Anne Hoff,
*Department of Chemical Engineering, NTNU, Norway*

Professor Magnus Rønning,
*Department of Chemical Engineering, NTNU, Norway*

Professor Unni Olsbye,
*Department of Chemistry, University of Oslo, Norway*

**Local Scientific committee**
Prof. Anders Riisager, *Technical University of Denmark (DTU), Denmark*
Prof. Anker Degn Jensen, T*echnical University of Denmark, Denmark*
Prof. Dmitry Murzin, *Industrial Chemistry and Reaction Engineering, Åbo Akademi University, Finland*
University Lecturer Mika Huuhtanen, *Environmental and Chemical Engineering, University of Oulu, Finland*
Prof. Stian Svelle, *Department of Chemistry, University of Oslo, Norway*
Ass. Prof. Erwan Le Roux, *Department of Chemistry, University of Bergen, Norway*
Prof. Hanna Härelind, *Division of Applied Chemistry, Chalmers University of Technology, Sweden*
Prof. Christian Hulteberg, *Department of Chemical Engineering, Lund University, Sweden*

**Local Organizing Committee**
Anne Hoff, *NTNU,* **Chair**
Bjørn Christian Enger, *SINTEF*
David Waller, *Yara and NTNU*
Ingeborg-Helene Svenum, *SINTEF and NTNU*
Jia Yang, *NTNU*
Kjell Moljord, *Equinor and NTNU*
De Chen, *NTNU*
Edd A. Blekkan, *NTNU*
Hilde Johnsen Venvik, *NTNU*
Magnus Rønning, *NTNU*
Rune Lødeng, *SINTEF*

**International Scientific Committee**
EFCATS Council

**Congress secretariat**
NTNU Conferences

# Congress area map

# Plenary speakers

**Sunday August 31, 16:00 -17:00**

## Francois Jérôme

Research director at National Centre for Scientific Research (CNRS), Poitiers, France
Recipient of 2023 Francois-Gault-Lectureship

*Catalysis in biomass conversion: Between promise and feasibility*

**Sunday August 31, 17:00 -18:00**

## Andrzej Kotarba

Professor of Chemistry, founder of Materials and Surface Chemistry Group, Jagiellonian University, Krakow, Poland
Recipient of 2023 Francois-Gault-Lectureship

*Beyond conventional routes in catalyst development: Turning weaknesses into strengths*

**Monday September 1, 08:45 – 09:45**

## Bert M. Weckhuysen

Distinguished University Professor of Utrecht University, The Netherlands
Recipient of the 2025 Michel Boudart Award for the Advancement of Catalysis

*Spatial and Temporal Exploration of Heterogeneous Catalysts with Operando Spectroscopy*

**Tuesday September 2, 08:45 – 09:45**

## George Willis Huber

Richard Antoine Professor of Chemical Engineering,
University of Wisconsin-Madison. USA

*Inorganics and catalytic conversion of biomass and plastics*

**Wednesday September 3, 08:45 – 09:45**

## Núria López

Professor of Chemistry at Institute of Chemical Research of Catalonia (ICIQ), Tarragona, Spain

*Dynamics in catalytic materials*

**Thursday September 4, 08:45 – 09:45**

## Jan-Dierk Grunwaldt

Professor and director at the Institute for Chemical Technology and Polymer Chemistry, Karlsruher Institute of Technology (KIT), Karlsruhe, Germany

*Dynamics in catalysis: From the atomic structure to the reactor scale*

**Friday September 5, 11:30 – 12:30**

## Shannon S. Stahl

Professor of Chemistry, Steenbock Professor of Chemical Sciences at University of Wisconsin – Madison, USA
Recipient of Robert K. Grasselli Award for Catalysis 2025

*Managing the oxygen reduction reaction to support the aerobic oxidation of organic molecules*

# Keynote speakers

**Xiulian Pan** Professor of the State Key Laboratory of Catalysis at Dalian Institute of Chemical Physics
*OXZEO catalysis for C1 chemistry*
Monday September 1, 10:30

**Alessandra Beretta** Professor at Politecnico di Milano, Italy
*R&D steps towards $H_2$ production by methane pyrolysis on Fe-$Al_2O_3$: From catalyst formulation to kinetic and reactor studies*
Monday September 1, 11:10

**Miao Sun,** Research Science Specialist and Project Team leader at Saudi Aramco, Saudi Arabia, Recipient of EFCATS Applied Catalysis Award 2025
*Low value liquids to chemicals*
Monday September 1, 11:50

**Todd Hyster** Professor of Chemistry at Princeton University, USA
*Emergent Mechanisms in Photoenzymatic Catalysis*
Monday September 1, 14:00

**Edd Anders Blekkan** Professor and head of the Catalysis group at The Norwegian University of Science and Technology (NTNU), Norway
*Fischer-Tropsch synthesis over 100 years – still more to do?*
Monday September 1, 14:00

**Anna Chrobok** Professor at Silesian University of Technology, Poland
*Designing ionic-based materials as catalysts for advance organic synthesis*
Monday September 1, 16:00

**Ning Yan** Professor and director at Centre for Hydrogen Innovations, National University of Singapore, Singapore
*Catalytic Synthesis of Renewable Organonitrogen Chemicals*
Tuesday September 2, 10:30

**Tapio Salmi** Professor at Åbo Akademi, Finland
*The impact of chemical reaction engineering on the catalytic transformation of biomass to valuable chemicals*
Tuesday September 2, 11:10

**Jakob Kibsgaard** Professor and head of section for Surface Physics and Catalysis at DTU, Denmark
*Designing and investigating catalysts for energy conversion catalysts using mass-selected nanoparticles*
Wednesday September 3, 10:30

**Thomas Schaub** Designated Senior Principal Scientist and Lab Head of Catalysis Research Laboratory, BASF Germany, and Honorary Professor at University of St. Andrews, Scotland
*Collaborative industrial-academic research for the use of homogenous catalysis in circular processing and the utilization of renewable feedstocks*
Wednesday September 3, 11:10

**Jacinto Sá** Professor at Uppsala University, Sweden
*Plasmons: From metal ore to catalyst*
Thursday September 4, 10:30

**Gianvito Vilé** Associate Professor of Chemical Engineering at Politecnico di Milano, Italy and Recipient of EFCATS Young Researcher Award 2025
*Single-atom catalysis for greener fine chemical synthesis*
Thursday September 4, 11:10

**Fábio Bellot Noronha** Senior researcher of The National Council for Scientific and Technological Development (CNPq), and a researcher of the State of Rio de Janeiro (FAPERJ). Brazil
*Unraveling active sites for the catalytic hydrodeoxygenation of lignin-derived compounds: From mechanistic insights to rational design*
Thursday September 4, 14:00

**Albin Pintar** Research professor and Head of the programme group »Integrated Approach to Water Pollution Prevention« at the National Institute of Chemistry, Ljubljana, Slovenia
*Harnessing light for a cleaner future: Advances in heterogeneous photocatalysis*
Thursday September 4, 14:40

**Gabriele Centi** Professor in Industrial Chemistry at the University of Messina, Italy and President European Research Institute of catalysis
*Transformative catalysis for a resilient and low-carbon future* (Centi and Perathoner)
Friday September 4, 09:00

**Gerhard Mestl** Head of Department *Oxidation Catalysis*, Clariant AG, Germany
*"Vision without execution is hallucination" (T.A. Edison) Effective strategies for scale-up of heterogenous catalysts*
Friday September 4, 09:40

# YEuCat events

## YEuCat contest

The first **YEuCat contest: *Research in a Nutshell*** will take place during EuropaCat 2025:

**Time:** Tuesday September 2, 14:00-15:30
**Place:** Auditorium A300, Pirsenteret

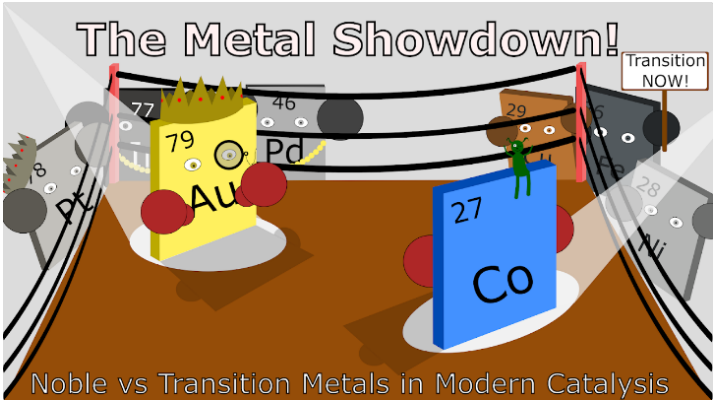
This contest aims to recognize outstanding efforts by young researchers (PhD students and early-career PostDocs) to present their work in an accessible and engaging way. We have selected 10 finalists, who will present their research in a dedicated session at EuropaCat 2025 in a short oral presentation. The final winner will be selected based on a combined jury and audience vote and will be announced during the conference dinner on Wednesday.

## YEuCat Panel discussion

The first edition of **YEuCat panel discussions "The Metal Showdown: Noble vs. Transition Metals in Modern Catalysis"** will be held at EuropaCat 2025.

**Time:** Tuesday September 2, 16:10-17:30
**Place:** Auditorium A300, Pirsenteret

A crucial topic in the context of climate change and sustainability is the utilization of critical raw materials and the pursuit of alternatives. In catalysis, this specifically applies to noble metal based materials. Often praised for their excellent activity and stability, the use of noble metals is integral in large-scale industrial applications. However, both economic pressure and ecological concerns are fueling the search for alternative catalysts, primarily based on transition metals. Though these novel materials are promising candidates, most of them fail to reach the stability and activity of their established counterparts. On the other hand, research on noble metal catalysis nowadays often aims to prolong the lifetime of the materials, reduce the metal loading, and find ways to recycle the spent catalysts. In this discussion, we want to shine a light on the needs and goals of the chemical industry, as well as academic researchers, in the field of transition and noble metal catalysis.

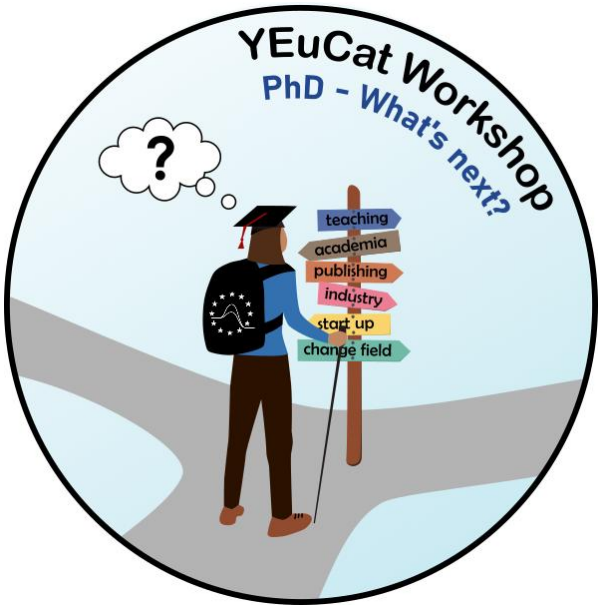


## YEuCat workshop

Finally, similar to the very first YEuCat event that was held at EuropaCat 2019 in Aachen, we will again organize a **YEuCat workshop**:

**Time:** Wednesday, September 3, 12:30 – 14:00
**Place:** Auditorium A300, Pirsenteret

As young researchers navigating the world of catalysis, the path ahead is full of possibilities – industry, academia, startups – but it can also feel overwhelming. That's why YEuCat is excited to host a new edition of the YEuCat Workshop, designed especially for PhD students and early-career researchers attending EuropaCat 2025.




In this workshop, we want to shed light on different career trajectories with testimonials from people who started just like us. Our panel of speakers includes:

- **Dr. Nikolaos Tsakoumis, Research Scientist at SINTEF**, and **Dr. Liliana Lukashuk, Principal Scientist at Johnson Matthey**, offering a perspective on industrial career paths
- **Dr. Francesco Valentini from the startup co2ol catalyst**, sharing insights into the challenges and rewards of entrepreneurial science
- **Prof. Dr. Christoph Rameshan (Montanuniversität Leoben)** and **Dr. Bidyut Bikash Sarma (LCC-CNRS)**, who will talk about pursuing a career in research, applying for European funding, and boosting your academic journey
- **Dr. Christopher Goodwin, beamline scientist at ALBA synchrotron**, giving you insights into the synchrotron world and *operando* spectroscopy
- **Dr. Sandra González Gallardo, Editor-in- Chief at Wiley for the journals *Advanced Synthesis and Catalysis* and *ChemCatChem***, giving tips to valorize our research and navigate the publication process.

This event will be an informal and inspiring conversation, where the speakers will share their experiences and will answer our questions. It's also a great chance to connect with fellow researchers and meet the YEuCat community. Lunch will be provided and we will enjoy it together during the session.

The workshop will be moderated by the YEuCat board. Don't miss this opportunity to explore, reflect and connect. Stay tuned!

# Social events

## Welcome reception

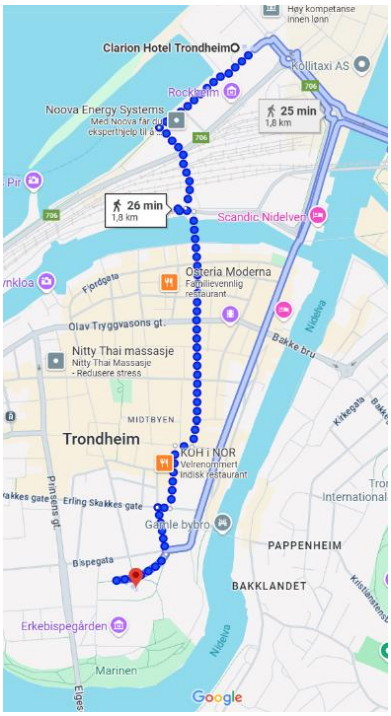
There will be a welcome reception in the restaurant area at Clarion Hotel Trondheim Sunday afternoon, just after the Opening Plenary lectures. Pre-registration necessary.

**Time:** Sunday August 31, 18:00 - 19:00 **Place:** Clarion Hotel Trondheim

## Concert in Nidarosdomen

Sunday evening, all attendees and accompanying persons are invited to a complimentary organ concert in Nidaros Cathedral, Norway´s national sanctuary, hosted by the community of Trondheim.

**Time:** Sunday August 31, at 20:00 **Place:** Nidaros Cathedral




## YEuCat mingling

For the young researchers there will be a get together and mingling session in the Pirsenter restaurant next to poster area P2, just after the poster session. An evening meal and something to drink is included. Pre-registration necessary.

**Time:** Tuesday September 2, at 19:30

**Place:** Pirsenteret restaurant, ground floor

**YEuCat sponsor:**

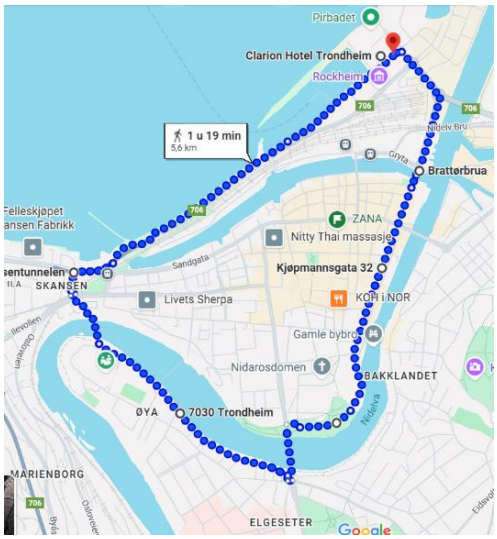
WILEY

## EuropaCat 2025 fun run

A run as a warm-up for the marathon on Saturday September 6, open for all attendees and accompanying persons. It is a 5.5 km route which shows some nice parts of the city - and it is not too demanding.

**Time:** Wednesday September 3, starting at 14:30

**Starting and ending place:** : Outside the main entrance of Clarion Hotel Trondheim





*Norwegian catalysis researchers Trondheim Marathon 2024*

## Congress dinner

Congress dinner will be organized at the conference venue. This will be a joint event for all participants that starts with sharing a meal, followed by socializing, music and entertainment. Pre-registration necessary to join the meal. If you just want to be a part of Part Two, after the meal, it's for all and included in the participant fee.


**Time:** Wednesday September 3,

Mingling from 18:00

Dinner starts 19:00

Open party for all from 21:30

**Place:** Clarion Hotel Trondheim , Cosmos and Space

**Congress dinner sponsors:**

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# 2025 EFCATS Awards

## 2025 Michel Boudart Award for the Advancement of Catalysis

**Bert M. Weckhuysen**
Distinguished University Professor of Utrecht University, The Netherlands

## 2025 The APACS & EFCATS Michel Che Award

**Gabriele Centi**
Professor in Industrial Chemistry at the University of Messina, Italy and President European Research Institute of Catalysis

## 2025 Francois-Gault-Lectureship

The award will be announced at EuropaCat 2025 closing session

## 2025 Robert K. Grasselli Award for Catalysis

**Shannon S. Stahl**
Professor of Chemistry, Steenbock Professor of Chemical Sciences at University of Wisconsin – Madison, USA

## 2025 EFCATS Applied Catalysis Award

**Miao Sun**
Research Science Specialist and Project Team leader at Saudi Aramco, Saudi Arabia

## 2025 EFCATS Young Researcher Award

**Gianvito Vilé**
Associate Professor of Chemical Engineering at Politecnico di Milano, Italy

## 2025 EFCATS Best PhD Thesis Award

**Vera Giulimondi**
PhD student in heterogeneous catalysis at ETH Zurich

**Isaac Daniel**
Post-doctoral researcher at Cardiff University

# Scientific program

## Sunday August 31, 2025

| | | |
|---|---|---|
| 15:30-16:00 | **Opening of Congress** | |
| Speakers | Kent Ranum, Mayor of Trondheim<br>Monica Rolfsen, Pro-Rector Outreach and Social Responsibility, NTNU<br>Hilde Johnsen Venvik, Chair of EuropaCat 2025 | |
| Music | Christian Eriksen's trombone quintet | |
| Chair | Anne Hoff | |
| 16:00 -18:00 | **Plenary lectures** | |
| 16:00 | **Francois Jérôme** | Research director at National Centre for Scientific Research (CNRS), Poitiers, France<br>Recipient of 2023 Francois-Gault-Lectureship |
| Lecture title | *Catalysis in biomass conversion: Between promise and feasibility* | |
| 17:00 | **Andrzej Kotarba** | Professor of Chemistry, founder of Materials and Surface Chemistry Group, Jagiellonian University, Krakow, Poland<br>Recipient of 2023 Francois-Gault-Lectureship |
| Lecture title | *Beyond conventional routes in catalyst development: Turning weaknesses into strengths* | |
| Chairs | Nataša Novak Tušar and Hilde J. Venvik | |
| 18:00-19:00 | **Welcome reception** | |
| 20:00-21:00 | **Organ concert in Nidarosdomen** | |

## Monday September 1, 2025

| | | |
|---|---|---|
| 08:45 – 09:45 | **Plenary lecture** | |
| Speaker | **Bert M. Weckhuysen** | Distinguished University Professor of Utrecht University, The Netherlands<br>Recipient of the 2025 Michel Boudart Award for the Advancement of Catalysis |
| Lecture title | *Spatial and Temporal Exploration of Heterogeneous Catalysts with Operando Spectroscopy* | |
| Chairs | David Kubička, Hilde J. Venvik and Carsten Sievers | |

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D1-S1-T03<br>***$CO_2$ activation:***<br>***Reverse water-gas shift catalysis*** | D1-S1-T01<br>***Hydrogen production by $CH_4$ pyrolysis*** |
| Chairs | Unni Olsbye and Petra De Jongh | Magnus Rønning and Ilenia Rossetti |
| 10:30 | **Keynote lecture:**<br>*OXZEO catalysis for C1 chemistry*<br>**Xiulian Pan**, the State Key Laboratory of Catalysis at Dalian Institute of Chemical Physics, China | 280 *Utilising operando XRD-CT and XANES for investigating the active phase formation of a Fe/$MgAl_2O_4$ catalyst during $CH_4$ pyrolysis*<br>Antonia Diana Bobitan*, Stephen Price, Ilenia Giarnieri, Patricia Benito, Andrew Michael Beale |
| 10:50 | | 908 *Deactivation and Kinetic Study of Catalytic Methane Pyrolysis on Fe/$Al_2O_3$ for Fluidized Bed Reactor Modelling*<br>Piercosimo Vedele*, Enrico Sartoretti, Fabio Salomone, Massimiliano Antonini, Samir Bensaid |
| 11:10 | 340 *Decoding the Promotional Effect of Iron in Bimetallic Pt-Fe-Nanoparticles for the Low Temperature Reverse Water-Gas Shift*<br>Colin Hansen*, Wei Zhou, Christophe Copéret | **Keynote lecture:**<br>*R&D steps towards H2 production by methane pyrolysis on Fe-$Al_2O_3$: From catalyst formulation to kinetic and reactor studies*<br>**Alessandra Beretta**, Politecnico di Milano, Italy |
| 11:30 | 267 *Efficient Reverse Water Gas Shift Reaction Over Designed Metal-Free Borophene Oxide Catalyst*<br>Anju Sobhana*, Shiju Raveendran | |
| 11:50 | 1378 *Catalytic Roles of Reactive Hydrogen in $CO_2$ activation via Reverse Water Gas Shift on Rh and Pt Surfaces*<br>Riccardo Colombo, Gabriele Spanò, Luca Nardi, Ya-Huei (Cathy) Chin, Matteo Maestri* | 165 *Unravelling Carbon Properties during Catalytic Methane Pyrolysis with Operando Raman Spectroscopy*<br>Hanya Spoelstra*, Matteo Monai, Eelco Vogt, Bert Weckhuysen |
| 12:00 | | 1420 *Iron and Iron Carbide as active species for Hydrogen and Carbon Nanotubes Production via Methane Dissociation*<br>Ilenia Giarnieri, Patricia Benito, Vito Foderà*, Clelia Righi, Phuoc Ho |
| 12:10 | 980 *Tuning Fe crystal phase of Fe/C catalysts enables highly active and selective towards $CO_2$ reduction to CO*<br>Yang Gao, Fayi Jin, Jingbo Du, Zhiyu Chen, Xiaoli Yang, Jia Yang* | 1446 *Study of the structure and activity of Fe-based catalysts during $H_2$ production via $CH_4$ pyrolysis*<br>Chiara Negri*, Lidia Castoldi, Veronica Piazza, Marco Orsenigo, Davide Cafar, Matteo Maestri, Gianpiero Groppi, Alessandra Beretta |
| 12:20 | 641 *Copper-based catalysts for efficient CO production at low temperatures*<br>Elena Vicente*, Cecilia Solís, Ramón Manzorro, Patricia Concepción, Ana B. Hungría, David Catalán, María Valls, María Balaguer, Jose M. Serra | 1418 *Methane pyrolysis on Fe-$Al_2O_3$ catalyst for low-C hydrogen: kinetic and reactor studies with a multiscale approach*<br>Veronica Piazza*, Marco Orsenigo, Davide Cafaro, Chiara Negri, Lidia Castoldi, Matteo Maestri, Gianpiero Groppi, Alessandra Beretta |
| **12:30 – 14:00** | **Lunch break** | |

| Room | 3-Cosmos3 | 4-A300 |
|---|---|---|
| Session | D1-S1-T07<br>***Bulk chemicals from biological feedstock*** | D1-S1-T04<br>***Refinery catalysis: Hydro-deoxygenation - 1*** |
| Chairs | Matti Reinikainen and Evgeniy Redekop | De Chen and Nataša Novak Tušar |
| 10:30 | 242 *Different Valorization Pathways for bio-based Ethanol examined by high-throughput catalyst testing*<br>Matthias Stehle, Benjamin Mutz*, Fabian Schneider | 1048 *Catalytic Activity of Zeolite-supported Pt for Hydrothermal Plant Oil Deoxygenation*<br>Monique Joice Auguis*, Masato Kouzu, Jun Suzuki, Yusuke Nishida |
| 10:50 | 1483 *Elucidating Pd role in UiO-66 alcohol growth via Guerbet reaction*<br>Pedro Jesús Cantarero Gómez*, Marco Montesi, Roberto Fernández de Luis, Pedro Luis, Arias Iker, Agirrezabal Telleria | 466 *Unlocking the Potential of Animal and Vegetable Oils for Renewable Fuels via Hydrotreating*<br>Benedetta Oliani*, Jostein Gabrielsen, Magnus Stummann |
| 11:10 | 961 *Zeolite Catalysts for the Valorisation of Fatty Esters*<br>Jonathan Fabian Sierra Cantor, Olinda Gimello, Carlos Alberto Guerrero Fajardo, Hugo Petitjean, Anne Aubert-Pouessel, Luca Bernardi, Francesco Di Renzo*, Corine Gérardin, Nathalie Tanchoux | 754 *Acidity drives selectivity: tuning reaction pathways under acetone hydrodeoxygenation conditions*<br>Guilherme Strapasson, Gabriel Bafero, Davi Leite, Dyovani Santos, Angela Albuquerque, Ingrid Barcelos, Liane Rossi, Cristiane Rodella, Daniela Zanchet* |
| 11:30 | 1046 *Mechanism and kinetic investigation of aldol condensation reactions over Lewis acid (≡SiO)xM−OH···O(H)−Si≡ sites*<br>Yanfei Zhang*, Peng Tian, Zhongmin Liu, Alexis T. Bell | 751 *Anisole on Ni (111) as a model reaction of hydrodeoxygenation of bio-oil in the pressure gap*<br>Giorgio Bruno Braghin* Franziksa Dahlmann Dan J. Harding Henrik Öström Klas Engvall |
| 11:40 | | 69 *Production of sustainable aviation fuels: hydrodeoxygenation of a model compound dihydroeugenol over Fe-Ni/$Al_2O_3$ catalyst in continuous operation*<br>Päivi Mäki-Arvela*, Zuzana Vajglova, Olha Yevdokimova, Mark Martinez-Klimov, Irina Simakova, Kari Eränen, Anssi Peuronen, Johan Linden, Dmitry Doronkin, J.E.S. Van der Hoeven, Dmitry Murzin |
| 11:50 | 512 *Polyfunctional catalysts for tandem processes of obtaining valuable hydrocarbons and oxygenates from C2, C4 (bio)alcohols*<br>Olga Larina*, Karina Valihura, Oksana Zikrata, Svitlana Orlyk, Sergiy Soloviev | **Keynote lecture:**<br>*Low value liquids to chemicals*<br>**Miao Sun**, Research Science Specialist and Project Team leader at Saudi Aramco, Saudi Arabia, Recipient of EFCATS Applied Catalysis Award 2025 |
| 12:10 | 1389 *(Ni,Cu)-catalysts for bio-acetaldehyde: preparation and pretreatment vs. performances*<br>Elena Spennati*, Giovanni Pampararo, Garbriella Garbarino, Paola Riani | |
| 12:20 | 649 *Machine Learning-Enabled Optimization of Supported Gold Catalysts for Base-Free Furfural Oxidation*<br>Joelle Thuriot*, Camila Palombo Ferraz, Hisham K. Al Rawas, Svetlana Heyte, Sébastien Paul Franck Dumeignil, Robert Wojcieszak | |
| **12:30 – 14:00** | **Lunch break** | |

| Room | 5-A150 | 6-Andromeda |
|---|---|---|
| Session | D1-S1-T08<br>***Fine chemicals and polymer production - 1*** | D1-S1-T15<br>***Special session:***<br>***Frontiers in Enzyme Catalysis*** |
| Chairs | Anna Chrobok and Gianvito Vilé | Changzhu Wu and Todd Hyster |
| 10:30 | 1304 *Designing a new weakly coordinating surface anion for a highly active catalyst in olefin polymerization using surface organometallic chemistry*<br>Morten Grunnaleite Ingebrigtsen*, Vittoria Chiari, Dominique Sauter, Manel Taam, Gaëlle Pannier, Olivier Boyron Christophe Boisson, Mostafa Taoufik | 899 *Engineering Living Cells with Polymers for Cascade Biocatalysis*<br>Changzhu Wu* |
| 10:50 | 81 *Binuclear Ti-Fe Sites in MFI Framework for Synergistically Catalysing Alkene Epoxidation*<br>Dong Lin*, Richard Lewis, Graham Hutchings | 1463 *LARA – for automated, FAIR biocatalysis*<br>Mark Doerr*, Konstantin Weigmann, Stefan Born, Uwe Bornscheuer |
| 11:10 | 948 *An in-situ DRIFTS-MS study on the role of V in the oxidation of methacrolein to methacrylic acid over heteropoly acids*<br>Sarayute Chansai*, Yuki Kato, Wataru Ninomiya, Chris Hardacre | 934 *Bio/photocatalytic hybrid system for visible-light driven biodegradable plastic precursor production from $CO_2$ gas and acetone*<br>Yutaka Amao*, Yu Kita |
| 11:30 | 161 *"Marriage" of C–H Activation and Chain-Walking: Ir-Catalyzed Hydroarylation for the Remote Functionalization*<br>King Hung, Nigel Tang, Haluhi Takahashi, Ryo Tokutake, Kanako Uchida, Kazuki Nishihara, Takanori Shibata* | 1231 *Enzymatic esterification from lab scale synthesis to industrial reality*<br>Kwinten Janssens*, Dries Gabriels |
| 11:50 | 283 *Gas phase hydroformylation with the post-modified Metal-Organic Framework NU-1000*<br>Silje F. Håkonsen, Morten Frøseth, Bjørnar Arstad, Terje Didriksen, Ole Swang, Knut Thorshaug Richard H. Heyn* | 573 *Bioinspired interface catalysis for hydrogen-related reactions*<br>Jian Liu* |
| 12:00 | | 1200 *Design of an enzyme-based bioreactor for anticancer drugs screening: kinetic evaluation of Lactate Dehydrogenase in the presence of different inhibitors*<br>Chiara Vincenzi*, Clarissa Cocuzza, Valentina Cauda, Debora Fino, Marco Piumetti* |
| 12:10 | 1352 *Catalytic Olefin Polymerization via High-Throughput Experimentation (HTE): a Powerful Approach to Investigate Complex Materials*<br>Antonio Vittoria*, Gaia Urciuoli, Salvatore Costanzo, Daniele Tammaro, Felicia Daniela Cannavacciuolo, Rossana Pasquino, Roberta Cipullo, Finizia Auriemma, Nino Grizzuti, Pier Luca Maffettone, Vincenzo Busico | 503 *Hybrid synthesis of AMFC-derived amides using supported goldnanoparticles and acyl-coenzyme A ligases.*<br>Lucas Bisel, Aurélie Fossey-Jouenne, Richard Martin, Jonathan Bassut, Carine Vergne-Vaxelaire, Anne Zaparucha, Egon Heuson* |
| 12:20 | | 1325 *Mono-copper enzymes that oxidize high-energy C-H bonds are protected by an electron hole transfer mechanism*<br>Tom Emrich-Mills*, Ivan Ayuso-Fernandez, Julia Haak, Ole Golten, Kelsi Hall, Lorenz Schwaiger, Trond Moe, Anton Stepnov, George Cutsail III, Morten Sørlie, Åsmund Røhr, Vincent Eijsink |
| **12:30 – 14:00** | **Lunch break** | |

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D1-S2-T03<br>***Frontiers in Enzyme Catalysis/ $CO_2$ to fuels and chemicals*** | D1-S2-T01<br>***Hydrogen production by reforming catalysis (MSR / DR / WGS)*** |
| Chairs | Changzhu Wu and Mark Saeys | Alessandra Beretta and Zhixin Yu |
| 14:00 | **Keynote lecture:**<br>*Emergent Mechanisms in Photoenzymatic Catalysis*<br>**Todd Hyster,** Professor of Chemistry at Princeton University, USA | 1004 *Alleviating the Deactivation of Pt/$CeO_2$ catalyst by Non-Thermal Plasma during the Water-Gas Shift Reaction*<br>Jingjing Li, Sarayute Chansai*, Mariyam Bi, Piu Chawdhury, Cristina Stere, Chris Hardacre |
| 14:20 | | 475 *Combined IR spectroscopy and TEM microscopy study of Co promoted $MoS_2$ catalysts for Water Gas Shift reaction*<br>Saloua Nouma, Laetitia Oliviero* |
| 14:40 | 584 *Alginate-supported amino acids as active halogen-free, biobased heterogeneous catalysts for the conversion of glycidol and $CO_2$ into glycerol carbonate*<br>Tanika Kessaratikoon*, Valerio D'Elia, Paolo P. Pescarmona | 1037 *Enhancing and understanding the stability of Ni catalysts via In-promotion for the steam reforming of oxygenates: An in-depth operando XRD-XAS and modeling investigation*<br>Martina Fracchia, Thantip Roongcharoen, Mauro Coduri, Luca Sementa, Soroosh Saeedi, Xuan Trung Nguyend, Dragos Constantin Stoian, Emanuela Pitzalis, Beatrice Campanella, Claudio Evangelisti,Alesssandro Fortunelli, Vladimiro Dal Santo, Filippo Bossola* |
| 15:00 | 338 *Computationally Guided Synthesis of MOF-74-Derived Catalyst for $CO_2$ Hydrogenation using Neural Network Potential*<br>Shunsaku Yasumura*, Mone Yamazaki, Masaru Ogura | 92 *A combined in situ NAP-XPS, XAS, and catalytic study towards an improved understanding of iron-based HTWGS catalysts*<br>Liliana Lukashuk*, Leon van de Wate, Tahmin Lais, Gopinathan Sankar |
| 15:20 | 130 *Defect Engineering of Z-scheme Heterojunction Catalysts for Efficient Photocatalytic $CO_2$ Reduction to $CH_4$*<br>Ye Song* | 877 *Impact of Cu (II) incorporation in $LaFeO_3$ for $H_2$ production via Chemical Looping Dry Reforming of $CH_4$ (CL-DRM)*<br>Ganesh Jabotra*, Amanda Sfeir, Lorenzo Stievano, Axel Löfberg, Sébastien Royer, Sudhanshu Sharma, Jean Philippe Dacquin |
| **15:30 – 16:00** | **Coffee break** | |

| Room | 3-Cosmos3 | 4-A300 |
|---|---|---|
| Session | D1-S2-T07<br>***Hydrogenation/dehydrogenation catalysis*** | D1-S2-T06<br>***Catalysis for recycling of plastics - 1*** |
| Chairs | Petra Ágota Szilágyi and David Willock | Ljubiša Gavrilović and Salvador Ordóñez |
| 14:00 | 1281 *Unveiling the Crucial Role of Supports in Hydrogenation of Biomass-Derived Oxygenates*<br>David Kubicka*, Snehasis Dutta, Babar Amin, Sharmistha Saha, Evgeniya Grechman, Jaroslav Aubrecht, Oleg Kikhtyanin | 765 *Catalysts for nylon-6 depolymerization to its monomer ε-caprolactam*<br>Prabin Dhakal, Derek Creaser, Louise Olsson* |
| 14:20 | 728 *Low-temperature non-oxidative dehydrogenation of short-chain alkanes over copper(I) mordenite via chemical looping*<br>Mikalai Artsiusheuski, Jiawei Guo, Ambarish Kulkarni, Jeroen van Bokhoven, Vitaly Sushkevich* | 371 *Upcycling waste EPS into highly efficient catalysts for sustainable conversion of PET to BHET via catalytic glycolysis*<br>Chitra Sarkar, Jong In Choi, Yujin Kang, Do-Young Hong* |
| 14:40 | 1456 *Application of Non-thermal Plasma in the Catalyst Design for Propane Dehydrogenation*<br>Jingyi Yang*, Eduardo Ortega, Nils Pfister, Shamil Shaikhutdinov, Beatriz Roldan Cuenya | 999 *Chemical Upcycling of Polycarbonate Plastic Waste*<br>Arjun Manal* |
| 15:00 | 168 *Elucidating active sites in iron molybdate catalysts during oxidative dehydrogenation using coupled operando and transient methods*<br>Jan Welzenbach, Hannah Wilhelm, Leon Schumacher, Kathrin Hofmann, Barbara Albert, Christian Hess* | 568 *Catalytic tandem dehydrochlorination–hydrogenation of waste PVC: transition from ionic liquids to Lewis acid catalysts*<br>Galahad O'Rourke*, Dirk De Vos |
| 15:20 | 900 *Influence of structure and coordinative environment on C-C bond formation Catalysis over Lewis acid (≡Si-O)-M and bimetallic (≡Si-OM1)-M2 centers*<br>Liang Qi*, Zhongmin Liu, Alexis Bell | 51 *Catalytic Pyrolysis of Polyethylene with Microporous and Mesoporous Materials: Assessing Performance and Mechanistic Understanding*<br>Jochem van de Minkelis*, Adrian H. Hergesell, Jan C. van der Waa,l Rinke M. Altink, Ina Vollmer, Bert M. Weckhuysen |
| **15:30 – 16:00** | **Coffee break** | |

| Room | 5-A150 | 6-Andromeda |
|---|---|---|
| Session | D1-S2-T02<br>***Gas to liquid fuels technology - 1*** | D1-S2-T05<br>***Recycling and waste treatment catalysis - 1*** |
| Chairs | Jia Yang and Mika Huuhtanen | Christian Hulteberg and Yasushi Sekine |
| 14:00 | **Keynote lecture:**<br>*Fischer-Tropsch synthesis over 100 years – still more to do?*<br>**Edd Anders Blekkan** Professor and head of the Catalysis group at The Norwegian University of Science and Technology (NTNU), Norway | 93 *Catalysing Industrial Symbiosis of the Steel and Ammonia Industries*<br>Liliana Lukashuk*, Santiago Palencia Ruiz,H.A.J. van Dijk |
| 14:20 | | 1363 *Oxalic Acid as a Multifunctional Agent for Iron Recovery and Catalytic Fe-FAU Zeolite Synthesis from Class C and Class F Fly Ash*<br>Süleyman Şener Akın*, İlhan Duruk, Can Barkın Dericioğlu, Selin Cansu Gölboylu, Bahar İpek, Burcu Akata |
| 14:40 | 763 *Accounting for 'missing' HCP Co in to understand alcohol & olefin selectivity in Mn promoted Co/$TiO_2$ FTS catalysts*<br>Andrew Beale*, Danial Farooq, James Paterson, Mark Peacock | 381 *Stoichiometric selective carbonylation of methane to acetic acid by chemical looping*<br>Yinghao Wang*, Chunyang Dong, Mariya Shamzhy, Yury Kolyagin, Jeremie Zaffran, Andrei Khodakov, Vitaly Ordomsky |
| 15:00 | 1399 *NiMgAl-coated foams for gas upgrading by tri-reforming to be integrated in a biomass gasifier*<br>Francesco Basile*, Elisabetta Orfei, Filippo Suzzi, Angela Gondolini, Elisa Mercadelli, Andrea Fasolini, Jacopo De Maron, Alessandra Sanson | 384 *Conversion of α-pinene to cis-pinane using carbon supported noble metals*<br>Filippo Ravasio*, Eszter Baráth, Katharina Konieczny |
| 15:10 | | 1167 *Novel functionalized zeolite and zeotype catalysts for direct oxidation of biomethane to biomethanol*<br>Miaomiao Wen*, Magnus Skoglundh |
| 15:20 | 1362 *Synthesis and integration of bioinspired copper active sites into UiO-67 for selective C-H activation in methane*<br>Ingeborg Braskerud Tangevold*, Rafael Cortez Sgroi Pupo, Jihad El Guettioui, Zoltán Németh, György Vankó, Mohamed Amedjkouh, Unni Olsbye, Petra Ágota Szilágyi | 890 *A new catalytic process for $H_2S$ splitting to $H_2$ and elemental S*<br>Anna Nova, Emanuele Moioli*, Flavio Manenti |
| **15:30 – 16:00** | **Coffee break** | |

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D1-S3-T03<br>***$CO_2$ conversion by photoactivation*** | D1-S3-T01<br>***Hydrogen production by $NH_3$ decomposition - 1*** |
| Chairs | András Sápi and Dorota Rutkowska-Żbik | Magnus Rønning and Alessandra Beretta |
| 16:00 | 135 *Photothermal Catalysis of $CO_2$ to Hydrocarbon on Bimetallic Catalysts*<br>Xinhuilan Wang*, Alejandra Rendón-Patiño, Diego Mateo, Jorge Gascon | 618 *Size/Site-Dependent Reaction Pathways of Ammonia Decomposition on Transition Metal Catalysts*<br>Jihao Wang, Jelena Jelic, Shilong Chen, Felix Studt, Malte Behrens* |
| 16:20 | 499 *Light-driven ambient temperature dry reforming of methane over CuInxGa1-xSe (CIGS) Solar Cells*<br>Duc Manh Nguyen*, Thomas Tom, Julian Guerrero, Jean-Francois Guillemoles, Negar Naghavi, Vitaly Ordomsky, Andrei Khodakov | 331 *Hydrogen production by $NH_3$ decomposition at low temperatures assisted by surface protonics*<br>Yukino Ofuchi, Kenta Mitarai, Sae Doi, Koki Saegusa, Mio Hayashi,Hiroshi Sampei, Takuma Higo, Yasushi Sekine* |
| 16:40 | 1386 *$CO_2$ Conversion via Photocatalysis and Photoelectrocatalysis: Harnessing CuMgFe Layered Double Hydroxide and Derived Oxides*<br>Eleonora Tosi Brandi*, Andrea Fasolini, Jacopo De Maron, Nicola Sangiorgi, Alex Sangiorgi, Miroslava Filip Edelmannová, Kamila Koci, Alessandra Sanson, Francesco Basile | 303 *Ceria doped carbon nanofibers for $H_2$ production via catalytic $NH_3$ cracking*<br>Christian Di Stasi*, Jaime López-de los Ríos, Alejandro Ayala-Cortés, Isabel Suelves, José Luis Pinilla |
| 17:00 | 225 *Alkali-promoted indium oxide as selective photo-thermal catalyst for $CO_2$ hydrogenation*<br>Diego Mateo*, Xinhuilan Wang, Alejandra Rendón-Patiño, Jean-Marcel Gallo, Jorge Gascon | 307 *Exploring the Effects of Oxide Additives on Spinel $Ni_{0.1}Co_{0.9}Al_2O_4$ Catalysts for Efficient Ammonia Decomposition*<br>Anh Binh Ngo*, Liseth Duarte-Correa, Oscar Gomez-Capiro, Frank Girgsdies, Olaf Timpe, Thomas Lunkenbein, Holger Ruland, Annette Trunschke |
| 17:10 | 87 *Mixed-phase $Ga_2O_3$ as a photocatalyst for $CO_2$ reduction with water : the role of each crystalline phase*<br>Muneaki Yamamoto, Naoto Ota, Yukie Takashiro, Tetsuo Tanabe, Tomoko Yoshida* | 47 *High surface area Ni/$La_2O_3$ exsolved catalysts for H2 production through $NH_3$ decomposition*<br>Sebastián Gámez, Josefine Schnee, Eric Gaigneaux* |
| 17:20 | 54 *Photo-Thermal Catalytic $CO_2$ Conversion over Oxide-Supported Nickel Phosphides and Borides*<br>Mark Bussell*, Jacob R. Schare, Carlos Linares Aponte, Talia Flaherty, Megan Desing | 414 *Mo or Fe nitrides: active phases for $NH_3$ decomposition on $Fe_3Mo_3N$*<br>Oscar Gómez-Cápiro*, Jan Folke, Simon Ristig,Daniela Ramermann, Walid Hetaba, Eva M. Heppke, Sophie Hund, Martin Lerch, Holger Ruland |
| **17:30 – 19:30** | **Poster session** | |

| Room | 3-Cosmos3 | 4-A300 |
|---|---|---|
| Session | D1-S3-T08<br>***Fine chemicals and polymer production - 2*** | D1-S3-T06<br>***Catalysis for recycling of plastics - 2*** |
| Chairs | Richard H. Heyn and Thomas Schaub | Louise Olsson and Haresh Manyar |
| 16:00 | **Keynote lecture:**<br>*Designing ionic-based materials as catalysts for advance organic synthesis*<br>**Anna Chrobok** Professor at Silesian University of Technology, Poland | 1177 *PVC Pyrolysis Oil: From Organochlorine Challenges to Hydrodechlorination Solutions*<br>Ehsan Mahmoudi*, Gjani Hulaj, Miloš Auersvald, Kevin Van Geem, Angeliki Lemonidou, Dirk De Vos |
| 16:20 | | 579 *Catalytic Cracking of Waste Plastic Pyrolysis Oil in a Circulating Fluidized Bed Reactor: A Sustainable Route to Light Olefin Production*<br>Xuan Tin Tran, Dae Hun Mun, Eun Sang Kim, Do Kyoung Kim* |
| 16:40 | 723 *Improving and Control of the Selective Methanol Oxidation by Catalyst Design and Reactor Operation*<br>Jan Paul Walter*, Tanya Wolff, Lea Hilfert, Carina Hoffmann, Christof Hamel | 1107 *Polyethylene waste hydrogenolysis over bimetallic catalysts with favorable environmental footprint and economics*<br>Shibashish Devidutta Jaydev, Iris Nogueroles-Langa, Cecilia Salah, Jordi Morales-Vidal, Pol Sanz Berman, Yuzhen Ge, Henrik Eliasson, Rolf Erni, Gonzalo Guillén-Gosálbez, Núria López, Antonio José Martín*, Javier Pérez-Ramírez |
| 17:00 | 1161 *Oxidative Esterification of HMF: A Shift from Batch to Continuous Flow Using Noble Metal Catalysts*<br>Maya Eyleen Ludwig*, Dominik Neukum, Jan-Dierk Grunwaldt, Erisa Sarac | 670 *$CeO_2$-Supported Ni–Pd Catalyst for Hydrogenolysis of Epoxy Resins toward Recycling of Epoxy Thermosets*<br>Xiongjie Jin*, Yanze Huang, Yukari Yamazaki, Katsutoshi Nomoto, Hiroki Miura, Tetsuya Shishido, Kyoko Nozaki |
| 17:10 | 1264 *Unlocking Selective Furfural Hydrogenation with Cu-ReOx Catalysts: A Pathway to Renewable Chemicals and Fuels*<br>Debarun Banerjee, Jack Clegg, Sreedevi Upadhyayula* | |
| 17:20 | 7 *Vitamin E from Renewable Raw Materials: Phenols from Furan Derivatives and Alkynes*<br>Thomas Baldinger, Werner Bonrath, Alissa Götzinger, Jan Schütz* | 1010 *Theoretical investigation of Single Atom Catalysts for Light-Induced Ullmann Homocoupling Reactions.*<br>Maria Voccia* |
| **17:30 – 19:30** | **Poster session** | |

| Room | 5-A150 | 6-Andromeda |
|---|---|---|
| Session | D1-S3-T02<br>***Gas to liquid fuels technology - 2*** | D1-S3-T05<br>***Recycling and waste treatment catalysis - 2*** |
| Chairs | Edd Blekkan and Nico Fischer | Jia Yang and Hrvoje Kušić |
| 16:00 | 1035 *High loaded Cu-exchanged zeolite omega and its performance in the direct methane-to-methanol conversion*<br>Johannes Wieser*, Jeroen A. van Bokhoven | 1482 *Design of photo-Fenton-like catalysts for removal of organic contaminants of emerging concernfrom water under sunlight*<br>Nataša Novak Tušar*, Andraž Šuligoj, Ksenija Maver, Albin Pintar, Nataša Zabukovec Logar |
| 16:20 | 368 *Dynamic structural changes of ZSM-5 catalysts during methanol-to-hydrocarbons conversion and their impact on catalytic performance*<br>Vladimir Paunović*, Chao Wang, Przemyslaw Rzepka ,René Verel, Jun Xu, Feng Deng, Jeroen A. van Bokhoven | 815 *Observing Plastic Degradation with In-situ Atomic Force Microscopy*<br>Jiaorong Yan*, Bert Weckhuysen |
| 16:40 | 76 *A High Active CuCo Nanoalloy Catalyst with Dynamic Carbon Overlayers for Syngas to Higher Alcohols*<br>Jia Liu, Siwei Ying, Bilyu Hong, Jianwei Zheng, Youzhu Yuan* | 621 *Using $TiO_2$ NB/$Bi_3O_4Br$ composite for photocatalytic degradation of paracetamol*<br>Sajad Ahmadi, Velma Beri Kimbi Yaah*, Satu Ojala, Sergio Botelho de Oliveira |
| 16:50 | | 838 *Periodate activation by iron particles embedded into nitrogen rich biochar for bisphenol A degradation: efficiency and mechanism*<br>Jin Kang* |
| 17:00 | 1246 *Modulating jet fuel production by hydrogen transfer over Co/$Al_2O_3$-Hβ composite catalysts*<br>Shuaishuai Lyu*, Jinxu Liu, Run Xu, Xingang Li | 415 *Plasmonic metal-enhanced titanate nanorods for visible-light photocatalysis*<br>Špela Slapničar*, Gregor Žerjav, Albin Pintar |
| 17:10 | 793 *Revolutionizing Syngas Conversion: High-Purity Aromatics via Na-FeCuMg/HZSM-5 Catalysts*<br>Maria Saif*, Muhammad Asif Nawaz* | 637 *Direct Carboxylation of Phenol Over Supported Metal Carbonates*<br>Richard Martin*, Egon Heuson, Zhen Yan, Sébastien Paul |
| 17:20 | 1505 *Investigation of Pt-Ga/HZSM-5 Catalysts Prepared by Atomic Layer Deposition for Ethane Dehydroaromatization with and Without $CO_2$*<br>Heloisa Bortolini*, Rita Alves, Justin Notestein, Elisabete Assaf | 1091 *Unveiling the Co-Pyrolysis Mechanisms of Biomass and Plastic Wastes for Sustainable Fuel Production*<br>Zhihui Li* |
| **17:30 – 19:30** | **Poster session** | |

| | | |
|---|---|---|
| 08:45 – 09:45 | **Plenary lecture** | |
| Speaker | **George Willis Huber** | Richard Antoine Professor of Chemical Engineering, University of Wisconsin-Madison, USA |
| Lecture title | *Inorganics and catalytic conversion of biomass and plastics* | |
| Chairs | David Kubička and Dmitry Murzin | |

| | | |
|---|---|---|
| 13:30-13:50 | **Lunch symposium by Heraeus Precious Metals!** | |
| Speaker | **Dr. Artur Gantarev** | Global Technical Sales Manager, Heraeus Precious Metals. |
| Lecture title | *Optimizing Precious Metal Catalysts: Tailored Solutions for Unique Applications* | |
| Room | 6-Andromeda | |

Efficient production of chemicals and simultaneous reduction of harmful emissions rely heavily on high-performance catalysts. Yet, translating lab-scale catalyst systems into scalable, customized solutions for industrial processes present both technical and commercial challenges.

In this expert talk, Artur from Heraeus Precious Metals will present key strategies for developing tailored heterogeneous precious metal catalysts – designed to meet the specific demands of your production environment. Key topics include:

- Heraeus' Catalyst Development Toolbox: Discover Heraeus' comprehensive array of tools and material selection enable us to develop tailored catalyst specifically designed to meet your production process needs.
- Customized Manufacturing Models: Get to know our flexible manufacturing models, which allow us to fulfill unique customer requirements with customized catalyst formulations and manufacturing options.
- Aligned with Sustainability - Keeping it in the loop: Monetizing CO2 Reduction with 100% Recycled Precious Metals. Discover how precious metals are recycled, reused and result in a 98% reduced CO2 footprint.

**Vinci'**s origins began with the manufacturing of highly specialized laboratory and field instruments. Since then, Vinci has continuously invested heavily into R&D, supporting the evolution of their core client industries while adapting and developing new instruments to address emerging challenges - carbon footprint, environment, and global awareness. Today, Vinci has evolved and transferred their legacy for cutting edge expertise and technology to provide laboratory instruments and sensors across all high-tech industries- chemicals, health, civil engineering, and materials.

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D2-S1-T03<br>***$CO_2$ activation / GTL*** | D2-S1-T04<br>***Various process aspects of refinery catalysis*** |
| Chairs | Pablo Beato and Yves Schuurman | Miao Sun and Dmitry Murzin |
| 10:30 | 1514 *Catalysts for sustainable fuels production caught in the act*<br>Petra De Jongh* | 759 *Advancing Waste Plastic Catalytic Pyrolysis: Dendritic Zeolites for Superior Oil Quality by Enhanced Aromatization and Dehalogenation*<br>Jennifer Cueto Naredo*, Alberto Pinto, Lidia Amodio, Beatrice Fodor, María del Mar Alonso-Doncel, Patricia Horcajada, Patricia Pizarro, David P. Serrano |
| 10:50 | 387 *Enhanced $CO_2$ Hydrogenation via SIL-Modified Fe-Ru Catalysts: Tailoring Activity and Selectivity Through Support Engineering*<br>Juan Jose Villora-Pico*, Chunfei Wu, Jillian Thompson, Nancy Artioli, Haresh Manya | 651 *Mesoporous catalysts for the low-temperature depolymerization of lignin*<br>Julio Terra*, Jeremy Luterbacher |
| 11:10 | 1221 *Unravelling the structure-activity relationship for iron-based $CO_2$ hydrogenation catalysts*<br>Sinqobile Vuyisile Lusanda Mahlaba* | **Keynote lecture:**<br>*The impact of chemical reaction engineering on the catalytic transformation of biomass to valuable chemicals*<br>**Tapio Salmi,** Professor at Åbo Akademi, Finland |
| 11:30 | 227 *UV-visible modulation-excitation X-ray absorption spectroscopy to obtain insights in photocatalysts active species: the example of $CO_2$ reduction by $TiO_2$ supported Mo oxysulfides*<br>Sébastien Roth*, Audrey Bonduelle Skrzypczak, Christèle Legens, Julie Marin, Anthony Beauvois, Briois Valérie, Victor Mougel, Christophe Copéret, Pascal Raybaud | |
| 11:50 | 551 *Tuning Light Olefin Selectivity from Direct $CO_2$ Hydrogenation over Ga-based Catalysts*<br>Yasemen Kuddusi*, Laura Piveteau, Mounir Mensi, Daniel Blanco, Andreas Züttel | 1427 *Catalytic upgrading of biomass pyrolysis oil model compounds in a continuous dual trickle-bed reactor*<br>Alexander Søgaard*, Oliver P. Rasmussen, Rasmus B. Knudsen, Rasmus M. Pallisgaard, Amalie P. Krebs, Rui P. da Cruz, Magnus Z. Stummann, Martin Høj, Anker D. Jensen, Amalie Paarup Krebs* |
| 12:00 | 912 *Time-Resolved in situ X-ray Absorption Spectroscopy Study of $Fe_5C_2$ Formation from Ferrous Oxalate under $CO_2$ Fischer-Tropsch Conditions*<br>Elizaveta Fedorova*, Aleksandr Fedorov, Dmitry Doronkin, David Linke, Christoph Kubis, Angelika Brückner, Evgenii Kondratenko | |
| 12:10 | 540 *Tailoring Pd-UiO-67 Catalysts: Insights into Structural Changes and Pretreatment Effects for Efficient $CO_2$-to-Methanol Conversion*<br>Elif Tezel*, Beatrice Garetto, Davide Salusso, Izar Capel Berdiell, Dag K. Sannes, Unni Olsbye, Stian Svelle, Elisa Borfecchia ,Petra Ágota Szilágyi | 214 *Catalytic Transformation of Hemicellulose: Comparing Zeolites and Ion Exchange Resins in Carboxylic Acid Production*<br>Izabela Czekaj*, Natalia Sobuś, Marcin Piotrowski |
| 12:20 | 60 *The Influence of Aluminum Distribution in Cu-MOR Systems Towards Methane-to-Methanol Conversion: A Combined Experimental and Theoretical Study*<br>Peter Njoroge*, Bjørn Solemsli, Asanka Wiejeranthe, Izar Berdiell, Agnieszka Seremak, Beatrice Garetto, Elisa Borfecchia, Unni Olsbye, Sebastian Prodinger | 298 *Depolymerization of Industrial Lignin by Platinum-based Catalyst*<br>Franziska Heck*, Hans-Jörg Wölk, Ingo Gräf, Raphaela Süss, Birgit Kamm |
| **12:30 – 14:00** | **Lunch break** | |

| Room | 3-Cosmos3 | 4-A300 |
|---|---|---|
| Session | D2-S1-T01<br>***Hydrogen production by $NH_3$ decomposition - 2*** | D2-S1-T13<br>***Special session: Catalysts and reactors under dynamic conditions for energy storage and conversion - 1*** |
| Chairs | Malte Behrens and Liliana Lukashuk | Jan-Dierk Grunwaldt, Linda Klag, Tanja Franken |
| 10:30 | **Keynote lecture:**<br>*Catalytic Synthesis of Renewable Organonitrogen Chemicals*<br>**Ning Yan,** Professor and director at Centre for Hydrogen Innovations, National University of Singapore, Singapore | 1432 *Operando Spectroscopy Vision of Dynamic Catalyst Surfaces*<br>Jan Knudsen,* Ulrike Küst, Calley Eads, Alexander Klyushin, Mattia Scardamaglia, Weijia Wang, Robert Temperton, Esko Kokkonen, Joachim Schnadt, Andrey Shavorskiy |
| 10:50 | | 404 *Identifying active sites by surface science and in situ microscopy*<br>Günther Rupprechter* |
| 11:10 | 1180 *O2-Cofeed Enhances Ammonia Cracking via Surface H-scavenging on Ru-based Catalysts*<br>Yi Qiu*, Ivan Conti, Luca Vergani, Gianpiero Groppi, Alessandra Beretta* | 1510 *In situ and operando study of reversible Ru metal exsolution on fluorite-based high-entropy oxides for ethanol steam reforming*<br>Fabiane Trindade, Cristiane Rodella*, Gustavo Doubek |
| 11:30 | 376 *High-performance $NH_3$ decomposition catalysts through spray-flame synthesis*<br>Baris Alkan, Liseth Duarte-Correa, Frank Girgsdies, Jutta Kröhnert, Thomas Lunkenbein, Annette Trunschke* | 1080 *Measuring Adsorbate Profiles in Heterogeneous Catalytic Reactors by Iso-Potential Operando DRIFTS*<br>Sebastian Sichert, Oliver Korup, Raimund Horn* |
| 11:50 | 687 *Theory-Guided Development of a Barium Cobalt Catalyst for Ammonia Decomposition*<br>Alexander Gunnarson*, Olivia F. Sloth, Ang Cao, Miriam Varón, Thomas Veile, Ruben Bueno Villoro, Christian D. Damsgaard, Cathrine Frandsen, Jens K. Nørskov, Ib Chorkendorff | 1311 *Abatement and valorization of stationary NOx emissions for small scale $NH_3$ production*<br>Giuseppe Nava, Alessandro Porta, Roberto Matarrese, Luca Lietti* |
| 12:00 | | 1016 *ZSM-5 at work in the methanol-to-olefins reaction using operando DRIFTS/GC and $CH_3OH/CD_3OD$ pulses*<br>Luca Maggiulli, Jeroen van Bokhoven, Davide Ferri* |
| 12:10 | 1208 *Promoted LDH-derived cobalt catalysts for low-temperature ammonia decomposition*<br>Monica Pazos Urrea*, Magnus Rønning | 291 *Capture and conversion of $CO_2$ to methanol under mild conditions over an optimized bifunctional mesoporous catalyst*<br>Andreas Jentys*, Huidong Xu, Jennifer Strunk |
| 12:20 | | 167 *Elucidating active species under dynamic $CO_2$ hydrogenation conditions over ceria catalysts using multiple transient spectroscopy*<br>Christian Hess*, Jakob Weyel, Marc Ziemba, Henrik Hoyer |
| **12:30 – 14:00** | **Lunch break** | |

| Room | 5-A150 | 6-Andromeda |
|---|---|---|
| Session | D2-S1-T07<br>***Hydrocarbons and olefins synthesis*** | D2-S1-T16<br>***Special session:***<br>***Electrification of catalytic reactions*** |
| Chairs | Anders Risager and Päivi Mäki-Arvela | Joris Thybaut and Patricia Benito Martin |
| 10:30 | 80 *Selective Electrochemical Coupling of Acetylene to 1,3-Butadiene and Longer Hydrocarbons*<br>Boon Siang Yeo* | 268 *Electrochemical Conversion of Toluene Derivatives to Aromatic Nitriles using Water and Ammonia*<br>Sander Spittaels*, Jef Vanhoof, Dirk De Vos |
| 10:50 | 1285 *Production of green aromatics from ethanol and furfural over Zn and Ga modified zeolites*<br>Francesco Sandri*, Narendra Kumar, Päivi Mäki-Arvela, Dmitry Yu. Murzin | 299 *Enhanced Electrocatalytic Hydrogenation of Phenol in Biphasic Systems*<br>Andreas Jentys*, Christian Bielke, Jennifer Strunk |
| 11:10 | 513 *The Active Role of Carbon Deposits during 1-Butene Isomerization over Zeolite FER*<br>Karoline Hebisch, Pawel Chmielniak, Carsten Sievers* | 1147 *Electrically assisted thermochemical production of $H_2$ over $CeO_2$*<br>Jonathan Perry, Raul Peño, Timothy Jones, Scott Donne, Alberto de la Calle, Juan Coronado*, Alicia Bayon |
| 11:30 | 1022 *Transition-metal-free catalysis for hydrogenation reactions*<br>Fei Chang* | 217 *Direct growth of nickel borides on Ni foam for enhanced electrocatalytic performance in the oxidation of 5-HMF*<br>Jennifer Hong*, Loredana Protesescu, Paolo P Pescarmona |
| 11:50 | 391 *Tuning hydrogenation selectivity by playing with the carbide speciation in Mo-W mixed carbides*<br>Parviz Azimov*, Clément Guibert, Céline Sayag, Xavier Carrier | 1374 *Selectively monitoring the operando temperature of active metal nanoparticles during catalytic reaction*<br>Matthias Filez*, Valentijn De Coster, Hilde Poelman, Valerie Briois, Anthony Beauvois, Jolien Dendooven, Maarten B. J. Roeffaers, Vladimir Galvita, Christophe Detavernier |
| 12:10 | 198 *Reaction features of zeolite-catalyzed hydrocarbon processing: alkane vs. polyolefin*<br>Bo Peng*, Wei Lin, Mingfeng Li | 1025 *Measurement of local pH change during hydrogen evolution reaction under buffered conditions*<br>Yukihiro Takahashi*, Oda Fjulsrud, Frode Seland Svein Sunde |
| 12:20 | 514 *Methanol conversion to light olefins over SAPO crystals grown on γ-$Al_2O_3$ microspheres*<br>Roham Ghavipour, Jan Kopyscinski* | 23 *Self-supported MnFeCoNiIr high entropy oxides as acid resistant and highly-active OER catalysts*<br>Sara Riera Reguera, Ana-Matilde Pérez-Mas, Uriel-Alejandro Sierra Gomez, Jonathan Ruiz Esquius* |
| **12:30 – 14:00** | **Lunch break** | |

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D2-S2-T03<br>***$CO_2$ activation: Carbon coupling catalysis*** | D2-S2-T02<br>***Gas to liquid fuels technology - 3*** |
| Chairs | Xiulian Pan and Petra Ágota Szilágyi | Mika Huuhtanen and Edd Blekkan |
| 14:00 | 1150 *Inhibition of alkali migration during $CO_2$ hydrogenation over tandem iron-zeolite catalysts by effective encapsulation in carbon nanotubes*<br>Elena Corrao, Raffaele Pirone, Samir Bensaid, Agustin Martinez* | 901 *Sustainable Fuels from $CO_2$-rich synthesis gas via Fischer-Tropsch technology*<br>Bart de Jong, Konstantijn Rommens, Tal Rosner, Paul van den Tempel, Léon Rohrbach, Leendert Bezemer, Erik Heeres, Mark Saeys, Charlotte Vogt, Jingxiu Xie* |
| 14:20 | 1134 *Methane Synthesis from $CO_2$ and $NH_3$ over Supported Ru Catalysts*<br>Katsutoshi Sato*, Hiroki Ishikawa, Yuji Ueda, Katsutoshi Nagaoka | 1348 *The effect of S on catalytic dehydrogenation of methylcyclohexane on Pt surfaces*<br>Alvaro Posada-Borbón, Felicia Zaar*, Henrik Grönbeck |
| 14:40 | 1435 *Catalytic behavior of copper active centers in FER zeolite in $CO_2$ recycling*<br>Kinga Mlekodaj*, Julia Sobalska, Karolina Tarach, Olena Tynkevych, Dalibor Kaucky, Mark Newton, Przemyslaw Rzepka, Kinga Gora-Marek, Edyta Tabor | 1164 *Determination of aluminum distribution and active sites location in zeolite based-catalysts by anomalous X-ray powder diffraction*<br>Przemyslaw Rzepka*, Kinga Mlekodaj, Edyta Tabor, Jiří Dědeček, Jeroen A. van Bokhoven |
| 15:00 | 1248 *Investigating the Structure and Activity of K-Co-Cu-Al Catalysts for $CO_2$ Hydrogenation to Higher Alcohols*<br>Vitor Duarte Lage*, Carlos Andres Ortiz-Bravo, Carla Ramos Moreira, Alexander Eduardo Caytuero Villegas, Alexander Le Valant, Nicolas Bion, Fabio Souza Toniolo | 241 *Catalysis in the energy transition*<br>Ingrid Aartun Bøe*, Hamid Rafiq, Rauf Salman, Kjell Moljord, Øyvind Borg, Trond Myrstad |
| 15:10 | 180 *CO2 Hydrogenation to Methane, Methanol and Ethanol Using Cu- and Rh-Exchanged Defective UiO-66 Metal-Organic Frameworks*<br>Ken Luca Abel*, Unni Olsbye | |
| 15:20 | 996 *Probing the selectivity of Ni-Ga exsolved catalysts for the conversion of $CO_2$ to C1 products*<br>Angelos Konstantinos Bonis*, Melis Duyar, Kalliopi Kousi | 1156 *Unraveling Cu Migration Within Zeolite Omega via XAS and (A)XRPD and its Influence on the Methane-to-Methanol Conversion*<br>Johannes Wieser*, Lev Khait, Przemylsaw Rzepka, Jeroen van Bokhoven |
| **15:30 – 16:00** | **Coffee break** | |

| Room | 3-Cosmos3 | 4-A300 |
|---|---|---|
| Session | D2-S2-T01<br>***Hydrogen production by $NH_3$ decomposition - 3*** | YEuCat contest:<br>***Research in a nutshell*** |
| Chairs | Annette Trunschke and Monica Pazos Urrea | Emanuele Moioli and Veronica Piazza |
| 14:00 | 861 *Eco-Friendly and Industrially Scalable Synthesis of Ni-$BaZrO_3$ Catalysts for $H_2$ production from NH3 Decomposition*<br>Andrea Felli*, Maila Danielis, Alessandro Trovarell,i Christine Artner-Wallner, Byron Truscott, Sara Colussi | Angelos Konstantinos Bonis:<br>*Probing the selectivity of Ni-Ga exsolved catalysts for the conversion of $CO_2$ to C1* products [996] |
| 14:10 | | Willow Dew:<br>*Alloying and Segregation Effects in Supported Palladium-Silver Alloy Catalysts During Carbon Monoxide and Methane Oxidation* [1375 ] |
| 14:20 | 1481 *Ru clusters on graphitized carbon nanofibers for hydrogen production from ammonia*.<br>Benjamin Young Thomas Liddy*, Emerson Kohlrausch, Gazimagomed Aliev, Yifan Chen, Andreas Weilhard, Luke Keenan, Diego Gianolio, David Duncan, Andrei Khlobystov, Jesum Alves Fernandes | Sibylle Schwartmann:<br>*The Electro-Oxidation of β-O-4 Model Compounds monitored in a Chamber-Separated Cell using In Situ ATR-IR Spectroscopy* [438] |
| 14:30 | | Rasmus Svensson:<br>*Adsorbate-induced catalyst reconstructions* [742] |
| 14:40 | 1105 *Electrified ammonia cracking via thermally conductive packed POCS*<br>Matteo Ambrosetti, Federico Sascha Franchi*, Alessandra Beretta, Gianpiero Groppi, Enrico Tronconi, Giovanna Massobrio, Matteo Lualdi | Piercosimo Vedele:<br>*Deactivation and Kinetic Study of Catalytic Methane Pyrolysis on $Fe/Al_2O_3$ for Fluidized Bed Reactor Modelling* [908] |
| 14:50 | | Daniel Costa:<br>*Machine Learning guided Zeolite Preparation using Literature augmented Datasets* [1321] |
| 15:00 | 1215 *Kinetic Study of $NH_3$ Cracking over Highly Active Ru/$CeO_2$ Catalysts Prepared by Traditional IWI and Novel Mechanochemical Methods*<br>Yi Qiu, Ivan Conti*, Nicole Bendazzoli, Rudy Calligaro, Alessandro Trovarelli, Elisabetta Iengo, Enzo Alessio, Alessandra Beretta | Satya Sireesha Rameswarapu:<br>*Direct $CO_2$ Hydrogenation to higher Carboxylic acids via Heterogenous Thermo-Catalysis in liquid phase* [1458] |
| 15:10 | | Ariana Serban:<br>*Self-supported hydrogen evolution reaction (HER) NiMo for targeted water splitting devices* [767] |
| 15:20 | 1341 *Ammonia decomposition over iron-, molybdenum-, and cobalt-based nitride and carbide catalysts*<br>Sahra Louise Guldahl-Ibouder*, Monica Pazos Urrea, Ingeborg-Helene Svenum, Magnus Rønning | Marc-Eduard Usteri:<br>*Explainable Artificial Intelligence Elucidates Synthesis-Structure-Property-Function Relationships in Nanostructured Catalysts* [1120] |
| 15:30 | | Elena Vicente:<br>*Copper-based catalysts for efficient CO production at low temperatures* [641] |
| **15:30 – 16:00** | **Coffee break** | |

| Room | 5-A150 | 6-Andromeda |
|---|---|---|
| Session | D2-S2-T16<br>***Special session:***<br>***Electrification of reactors - 1*** | D2-S2-T12<br>***Special session:***<br>***Intermetallic compounds in catalysis - 1*** |
| Chairs | Joris Thybaut and Patricia Benito Martin | Marc Armbrüster and Büsra Sevdaroglu |
| 14:00 | 954 *$CO_2$ valorisation using inductively heated bifunctional Fe-based catalysts via the RWGS reaction*<br>Stylianos Spyroglou*, Janis Timoshenko, Christian Schröder, Noelia Barrabes, Maricruz Sanchez-Sanchez | 855 *Surrounding the Active Site for Selective Hydrogenation by Different Structural Motifs*<br>Kaartick Sivakumar, Vincent Fournée, Julian Ledieu, Émilie Gaudry, Peter Gille, Yuri Grin, Marc Armbrüster* |
| 14:20 | 699 *Magnetically heated Ru-catalyst hydrotreatment of (hemi)cellulosebasedplatform chemicals in electrified slurry reactor*<br>Miha Grilc* | 1492 *Oxygen evolution reaction with nickel borides: from local to bulk*<br>Büsra Sevdaroglu*, Lithin Madayan-Banatheth, Ulrich Burkhardt, Corina Andronescu, Yuri Grin, Iryna Antonyshyn |
| 14:40 | 41 *Resolving heat distribution in magnetic induction reactors for $CO_2$ conversion by operando and 3D X-ray diffraction*<br>Lucy Costley-Wood*, Andrew Beale, Christian Cerezo-Navarette, Anthony Vamvakeros, Asuncion Molina Esquinas, Pascual Ona Burgos | 1400 *Understanding the stability and role of RENi5 as a catalyst precursor in the energy scenario*<br>Gabriella Garbarino*, Riccardo Freccero, Elena Spennati, Giorgio Palla, Paola Riani |
| 15:00 | 680 *Hydrogen and Carbon production from Methane Pyrolysis: Comparing Conventional and Microwave heating methods*<br>Valentin L'hospital, Leandro Goulart de Araujo, Emmanuel Landrivon, Ariel Mello, Marilena Radoiu ,Yves Schuurman, Nolven Guilhaume, David Farrusseng*, | 810 *$SiO_2$-Supported PdIn Intermetallic Nanoparticles as Highly Active Catalyst for $CO_2$ Hydrogenation to Methanol*<br>Qin Zhang* |
| 15:10 | 967 *Electrified Steam Methane Reforming in monoliths:understanding the interplay of eccentricity and heating wire diameter*<br>Roberta Castiglione*, Matteo Ambrosetti, Gianpiero Groppi, Enrico Tronconi, Martin Baumgärtl, Gianluca Pauletto | |
| 15:20 | 434 *Plasma catalytic dry reforming of methane: metal oxides vs. metallic catalysts*<br>Valeria Vermile*, Bram Seynnaeve, Jeroen Lauwaert, An Verberckmoes, Vera Meynen | 1447 *Ligand Enhanced Oxygen Reduction Kinetics in High Entropy Intermetallic Alloy*<br>Daniel Wan*, Jay Yan, Ryan Wang |
| **15:30 – 16:00** | **Coffee break** | |

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D2-S3-T03<br>***$CO_2$ hydrogenation to methanol*** | D2-S3-T07<br>***Ammonia and methanol synthesis*** |
| Chairs | Ingrid Aartun Bøe and Ning Yan | Tapio Salmi and Daniela Farmer |
| 16:00 | 1344 *Operando spectroscopic evidences about the pre-treatment step of Cu-based catalysts during CO2 hydrogenation to MeOH*<br>Catia Cannilla*, Chiara Corrente, Serena Todaro, Mariarita Santoro, Mario Samperi, Fabrizio Randazzo, Francesco Arena, Giuseppe Bonura | 958 *Investigating the Promotion Mechanism of Lanthanum on Magnetic Metals for Ammonia Production*<br>Clara Aletsee* |
| 16:20 | 516 *In situ restructuring produces a highly active Cu@ZnOx catalyst for $CO_2$ hydrogenation*<br>Xianhua Zhang*, Antti-Jussi Kallio, Xinwei Ye ,Simo Huotari, Bert Weckhuysen | 1288 *In situ AP-XPS in a Plasma Environment: Understanding Plasma Catalysis for Ammonia Production*<br>Sam Taylor*, Filip Halböök, Robert Temperton, Jinguo Sun, Jonas Elmroth Nordlander, Sebastian Nilsson, Yupan Bao, Andreas Ehn, Johan Zetterberg, Sara Blomberg |
| 16:40 | 918 *Sorption-enhanced methanol synthesis – effect of water removal*<br>Ljubiša Gavrilović*, Saima Sultana Kazi, Tomas Cordero-Lanzac, Unni Olsbye | 799 *Bridging Scales in Catalyst Development: Synthesis, Shaping and Testing of an Optimised $Cu/ZnO/ZrO_2$ Methanol Catalyst*<br>Fabian Neumann*, Lucas Warmuth, Moritz Herfet, Sebastian Grewe, Thomas A. Zevaco, Thomas N. Otto, Michael Zimmermann, Stephan Pitter, Moritz Wolf |
| 17:00 | 1111 *$Cu^{+}$-O-$Ga^{3+}$ Pairs Drive Methanol Synthesis in Hydrotalcite Materials: SSITKA and Spectroscopic Insights*<br>Daviel Gómez*, Vlad Martin Diaconescu, Laura Simonelli, Alejandro Karelovic, Estefanía Fernández-Villanueva, Pablo G Lustemberg, Verónica Ganduglia-Pirovano, Marcelo Domine, Jaime Mazario, Patricia Concepción | 1315 *A Descriptor Guiding the Selection of Catalyst Supports for Ammonia Synthesis*<br>Andreas Weilhard*, Thomas Liddy, Ilya Popov, Emerson Kohlrausch, Jesum Alves Fernandes |
| 17:10 | 866 *Mechanistic insights into Mg-IRMOF-74-based catalysts for $CO_2$-to-methanol*<br>Anna Liutkova*, Fabio André Peixoto Esteves, Anastasia Molokova, Emiliya Poghosyan, Marco Ranocchiari | 85 *In Situ Formation of Fe Clusters During Haber-Bosch $NH_3$ Synthesis*<br>Evangelos Smith*, Marc Figueras Valls, Manos Mavrikakis |
| 17:20 | 420 *Flame spray pyrolysis synthesis of NiO-$Ga_2O_3$: The role of metal alloys in $CO_2$ hydrogenation to methanol*<br>Muhammad Ariq Attallah*, Nikolay Kosinov, Emiel Hensen | 667 *Promotion Effect of Ru-based Catalysts for Mild Ammonia Synthesis*<br>Shih-Yuan Chen* |
| **17:30 – 19:30** | **Poster session** | |

| Room | 3-Cosmos3 | 4-A300 |
|---|---|---|
| Session | **D2-S3-T01**<br>***Hydrogen production: Dehydrogenation*** | ***The Metal Showdown: Noble vs. Transition Metals in Modern Catalysis*** |
| Chairs | Matti Reinikainen and Maria Louloudi | Lorenz Lindenthal and David Kubicka |
| 16:00 | 315 *Autothermal DME and OMEs as long distance hydrogen carriers: Efficient and stable steam reforming using indium-based catalysts*<br>Patrick Schühle*, Robert Stöber, Fabian Kroll | |
| 16:20 | 646 *Efficient perhydrobenzyltoluene dehydrogenation on Pt/$TiO_2$*<br>Nataliia Marchenko, Mohamad Kharma, Franck Morfin, Laurent Picollo, Nuno Batalha*, Valérie Meille | 16:10 - 17:30<br><br>**YEuCat Panel discussion with:**<br><br>**Dr. Florian Harth,** Heraeus Precious Metals, Project lead heterogeneous catalysis<br><br>**Prof. Dr. Georg Willis Huber,** Professor of Chemical and Biological Engineering, University of Wisconsin–Madison<br><br>**Dr. Jessica Michalke,** PostDoc at Technical University of Leoben<br><br>**Dr. Marissa Reigel,** Saint-Gobain NorPro, Director of Research and Development |
| 16:40 | 1078 *Dehydrogenation of Liquid Organic Hydrogen Carrier*<br>Monica Distaso,* Fabian Siegert, Michael Gundermann, Lukas Maurer, Nicolas Johner, Timo Schaerfe, Franziska Auer, Michael Geisselbrecht, Peter Wasserscheid | |
| 17:00 | 392 *Identifying optimal active sites within fully exposed clusters towards efficient cyclohexane dehydrogenation*<br>Mi Peng*, Ding Ma | |
| 17:10 | 157 *Understanding and mitigating catalyst deactivation for acetate valorization to acrylate via aldol condensation with formaldehyde*<br>Simon Verstraeten*, Ekaterina Makshina, Bert Sels | |
| 17:20 | 257 *Carbon-based photocatalysts for $H_2$ production through natural and artificial polymers photoreforming*<br>Maria Teresa Armeli Iapichino*, Roberto Fiorenza, Salvatore Scirè | |
| **17:30 – 19:30** | **Poster session** | |

| Room | 5-A150 | 6-Andromeda |
|---|---|---|
| Session | D2-S3-T16<br>***Special session:***<br>***Electrification of reactors - 2*** | D2-S3-T12<br>***Special session:***<br>***Intermetallic compounds in catalysis - 2*** |
| Chairs | Joris Thybaut and Patricia Benito Martin | Marc Armbrüster and Büsra Sevdaroglu |
| 16:00 | 844 *3D printed Joule-heated Periodic Open Cellular Structures (POCS) for carbon and hydrogen production by methane cracking*<br>Riccardo Balzarotti*, Daniele Minichini, Samuele Bottacin, Mirko Grignola, Marco Pelanconi, Giovanni Bianchi, Fabian P. Hagen, Dimosthenis Trimis, Alberto Ortona | 1047 *Understanding Promotion and Poisoning Effects of Ga on $CO_2$-to-Methanol Hydrogenation Activity of Supported $Cu_{1-x}Ga_xO_y$ Nanoparticles*<br>Olga Safonova* |
| 16:20 | 752 *Electrification of Process Industry - Insights into eQATOR` s Reactor Concept*<br>Martin Wilhelm Philipp Pichler*, Luca Nohel*, Verena Schallhart, Enes Caliskan, Elias Klemm, Lukas Moeltner | 574 *Design of Alloy Surfaces Based on Intermetallic Compounds for Highly Efficient Catalysis: Binary to High-Entropy*<br>YUKI Nakaya*, Shinya Furukawa |
| 16:30 | 833 *Electrified pilot line for methanol synthesis and sulfur recovery from acid gas*<br>Igor Shlyapnikov*, David Bajec, Matic Grom, Miha Grilc*, Gleb Veryasov, Helene Retot, Alexey Novikov, Jeroen Lauwaert, Amin Delparish, Hanna Dura, Hilde Poelman, Blaž Likozar, Joris Thybaut | |
| 16:40 | | 348 *Electrochemical $CO_2$ reduction reaction over Cu–In non-equilibrium intermetallic compound*<br>Soichi Kikkawa*, Tatsuya Koubayashi, Toshiaki Oka, Takeshi Watanabe, Tetsuo Honma, Hideyuki Kawasoko, Seiji Yamazoe |
| 16:50 | 1437 *Fe loading and Metal-Support Interaction in Hydrotalcite-derived Catalysts for Catalytic Methane Decomposition*<br>Patricia Benito*, Ilenia Giarnieri, Antonia Bobitan, Giuseppe Fornasari, Andrew Beale | |
| 17:00 | | 1316 *Effects of Stoichiometry and Structure in Intermetallic Nanoparticle Catalysts for the Liquid-Phase Semihydrogenation of Diphenylacetylene*<br>Si Chen, Xiaohui Huang, Di Wang, Christian Kübel, Silke Behrens* |
| 17:10 | 1405 *Low-Temperature Hydrothermal Synthesis of Medium- and High-Entropy Spinel Oxides for Oxygen Evolution*<br>Davide Vendrame, Kety Vezzu, Simon Schweidler, Ben Breitung, Vito Di Noto, Silvia Gross* | 546 *Journeying to asymmetric heterogeneous catalysis on PdGa{111}: enantioselective adsorption behavior*<br>Jacob Wright*, Roland Widmer, Harald Brune |
| **17:30 – 19:30** | **Poster session** | |

| | | |
|---|---|---|
| 08:45 – 09:45 | **Plenary lecture** | |
| Speaker | **Núria López** | Professor of Chemistry at Institute of Chemical Research of Catalonia (ICIQ), Tarragona, Spain |
| Lecture title | *Dynamics in catalytic materials* | |
| Chairs | Nico Fischer and Unni Olsbye | |

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D3-S1-T03<br>***Electrochemical conversion of $CO_2$*** | D3-S1-T08<br>***Fine chemicals and polymer production - 3*** |
| Chairs | Bert M. Weckhuysen and Svein Sunde | Richard Heyn and Anna Chrobok |
| 10:30 | **Keynote lecture:**<br>*Designing and investigating catalysts for energy conversion catalysts using mass-selected nanoparticles*<br>**Jacob Kibsgaard,** Professor and head of section for Surface Physics and Catalysis at DTU, Denmark | 139 *Surface Organometallic Chemistry Engineering of Dual-Atom Catalysts for Selective H/D Isotope Exchange*<br>Clément Camp*, Andrey V. Pichugov, Laurent Veyre, Chloé Thieuleux |
| 10:50 | | 848 *Metal-Free Carbon Nitride for Enhanced Continuous-Flow Vicinal Halotrifluoromethylation of Vinyl Compounds*<br>Shilpa Palit*, Gianvito Vilè |
| 11:10 | 48 *Hydronium ions inhibit $CO_2$ reduction on coinage metals*<br>Max J. Hülsey*, Bryan Tang, Yogesh Surendranath | **Keynote lecture:**<br>*Collaborative industrial-academic research for the use of homogenous catalysis in circular processing and the utilization of renewable feedstocks*<br>**Thomas Schaub,** Designated Senior Principal Scientist and Lab Head of Catalysis Research Laboratory, BASF Germany, and Honorary Professor at University of St. Andrews, Scotland |
| 11:30 | 789 *Understanding the Role of Interfacial pH in the Electrochemical Reduction of $CO_2$ to Formate*<br>Georgios Katsoukis*, Guido Mul | |
| 11:50 | 304 *Automating Flow Electrochemistry: A High-Throughput Approach to $CO_2$ Utilization Using AMPER*<br>Damian Gizinski*, Julio Lloret Fillol | 1479 *Unraveling the Dynamics of Copper Species in Alumina-Supported $CuCl_2$-Catalysts during Ethylene Oxychlorination using operando XAFS, PXRD and UV-Vis with multivariate statistical analysis*<br>Samuel Konrad Regli*, Magnus Rønning |
| 12:10 | 636 *Stability issues in zero-gap $CO_2$ electrolyzers for C2+ products*<br>Qiucheng Xu*, Brian Seger, Xile Hu | *209 Performance of tailored sulfonated poly(ether ether ketone) (sPEEK) catalyst in temperature-elevated esterification, etherification, and low-temperature acetylation reactions*<br>Alina Greve*, Hendrik Stein, Thomas Osterland, Olaf Hinrichsen |
| 12:20 | | 1095 *DOE for screening and optimization of the reaction conditions of cyclohexene allylic partial oxidation over Ce-UiO-67 MOF*<br>Valeria Finelli*, Federico Panagini, Francesca Rosso, Mouhammad Abu Rasheed, Stefano Bertinetti, Petra Ágota Szilágy,i Matteo Signorile, Unni Olsbye, Silvia Bordiga |
| **12:30 – 14:00** | **Lunch break** | |

| Room | 3-Cosmos3 | 4-A300 |
|---|---|---|
| Session | D3-S1-T18<br>***Advancements in catalysis: Kinetics*** | D3-S1-T04<br>***Refinery catalysis: Materials and fundamentals*** |
| Chairs | Nico Fischer and Albin Pintar | Fábio Bellot Noronha and Louise Olsson |
| 10:30 | 1141 *On Active Site Density in Heterogeneous Catalysis: Implications for Kinetics*<br>Dmitry Murzin* | 1328 *Cooperativity between Atoms in Atomically Dispersed Metal Catalysts*<br>Pedro Serna*, Manuel Moliner, Avelino Corma, Yuriy Roman-Leshkov, Randall Meyer, Mercedes Boronat |
| 10:50 | 1397 *Modulation Excitation and Phase-Domain Analysis for the Mechanistic and Kinetic Investigation of Non-thermal Plasma $CO_2$ Hydrogenation*<br>Mariyam Bi*, Shanshan Xu, James Paterson, Stephen Poulston, Meenakshisundaram Sankar, Sarah Haigh, Christopher Hardacre | 741 *X-ray Diffraction Tomography of $Nb_2O_5$-Based Pellets for Guaiacol Hydrodeoxygenation*<br>Leonardo Almeida De Campos*, Naiara Da Costa Telis, Kamila Iskhakova, Erisa Saraci, Jan-Dierk Grunwaldt, Klaus Raffelt, Thomas Sheppard |
| 11:10 | 134 *Adsorption of alcohols allows defining hydrophilic and hydrophobic interactions in tectosilicates*<br>Ruixue Zhao*, Sungmin Kim, Mal-Soon Lee, Fuli Deng, Xiaomai Chen, Yue Liu, Johannes Lercher | 1511 *Catalytic pyrolysis of model biomass compounds: structure-reactivity relationships, LFERs, kinetic isotope effect, semiempirical equations, kinetics & mechanisms*<br>Tetiana Kulik*, Borys Palianytsia, Alberto Roldan, Dunkan Wass, Philip R. |
| 11:30 | 1336 *Navigating Diffusion Highways in H-MFI through Machine Learning*<br>Pieter Cnudde*, Evegeniy Redekop, Unni Olsbye, Veronique Van Speybroeck | 963 *Davies Nanoparticle-Loaded Z-Scheme Photocatalysts for Sustainable Lignin Valorization: Towards a Circular Bioeconomy*<br>Rajat Ghalta*, Rajendra Srivastava |
| 11:50 | 585 *Base catalytic activities of Nb and Ta oxide clusters*<br>Supisara Hongpuek*, Hideyuki Kawasoko, Soichi Kikkawa, Daiki Yanai, Kosuke Suzuki, Kazuya Yamaguchi, Seiji Yamazoe | 99 *Fast-tracking SAF production by co-processing in kerosene hydrotreaters*<br>Kasper Hartvig Lyng Lejre*, Jostein Gabrielsen, Christian Holst Ebert |
| 12:00 | 1217 *$CO_2$ methanation mechanistic study on Ru/NiO-$CeO_2$ catalysts: unravelling reaction pathways*<br>Juan Bueno-Ferrer*, Iván Marínez-López, Iris Martín-García, Arantxa Davó-Quiñonero, Esteban Guillén-Bas, Virginia Pérez-Dieste, Dolores Lozano-Castelló, Agustín Bueno-López | |
| 12:10 | **2025 EFCATS Best PhD Award lecture:**<br>*Toward Atomic Precision in Heterogeneous Catalyst Design for Vinyl Chloride Synthesis*<br>**Vera Giulimondi**, PhD ETH Zürich, Switzerland | 150 *Base-Free Oxidation of HMF to FDCA with Regenerable Au/HT Catalysts: Role of Surface Hydroxyl Groups and Support Basicity*<br>Ane Bueno*, Nerea Viar, Iñaki Gandarias, Jesús María Requies |
| 12:20 | | 1031 *Rational catalyst design of ketonization catalysts through combined computational and experimental studies*<br>Petter Tingelstad*, Evangelos H. Smith, Kishore Rajendran, Albert Miró i Rovira, Manos Mavrikakis, De Chen |
| **12:30 – 14:00** | **Lunch break** | |

| Room | 5-A150 | 6-Andromeda |
|---|---|---|
| Session | D3-S1-T13<br>***Special session: Catalysts and reactors under dynamic conditions for energy storage and conversion*** | D3-S1-T23<br>***Materials in $CO_2$ activation chemistry*** |
| Chairs | Jan-Dierk Grunwaldt, Linda Klag, Tanja Franken | Silvia Bordiga and Dana Dvoranová |
| 10:30 | 1089 *Revealing the dynamic structure of Ga in CuGa catalysts for green methanol production*<br>Lorena Baumgarten*, Patrik Hauberg, Sebastian Mangelsen, Morteza Saedimarghmaleki, Claude Coppex, Jelena Jelic, Linda Klag, Felix Studt, Erisa Saraçi, Malte Behrens, Jan-Dierk Grunwaldt | 1322 *Electrochemical Copper Exsolution from Perovskite Thin Films*<br>Jonathan Rollenitz*, Christian Melcher, Florian Schrenk, Tobias Berger, Alexander K. Opitz, Christoph Rameshan |
| 10:50 | 742 *Adsorbate-induced catalyst reconstructions*<br>Rasmus Svensson*, Henrik Grönbeck | 1059 *Optimizing Silica-supported DFM catalysts for Efficient $CO_2$ Capture and Hydrogen-Assisted Re-Use*<br>Elisabetta Finocchio*, Sergio Molina, Giuseppe Nava, Cinzia Cristiani, Barbara Di Credico, Roberto Scotti, Lorenzo Viganò, Matteo Di Virgilio, Luca Lietti, Lidia Castoldi |
| 11:10 | 426 *Introducing Stimulando Time-Resolved IR Spectroscopy to Study Intermittent Light-Stimulated $CO_2$ Hydrogenation*<br>Floor Brzesowsky*, Mees Emond, Sander Deelen, Peter de Peinder, Bert Weckhuysen, Matteo Monai | 724 *Towards scale-up of catalyst synthesis: Bi-based materials for $CO_2$ electroconversion into formate at high rates*<br>Lucas Warmuth*, Phillip Reichert, Alain Rieder, Richard Samman, Matthias Kind, Thomas A. Zevaco, Stephan Pitter, Peter Broekmann, Jörg Sauer |
| 11:30 | 1310 *In series integration of a $CO_2$ capture unit and a catalytic methanation reactor and dynamic process modeling*<br>Iñigo Lacarra-Etxarri*, Elena Gómez-Bravo, Beñat Pereda-Ayo, Unai de la Torre, Juan Ramón González-Velasco, Jose Antonio González Marcos | 686 *Low-Temperature Template Oxidation with Ozone: A New Handle for Acidity Tuning in Zeolite Catalysis*<br>Julien Devos*, Ibrahim Khalil, Michiel Dusselier |
| 11:50 | 1076 *Evaluating the potential of forced periodic methanol synthesis*<br>Wieland Kortuz, Lothar Kaps, Johannes Leipold, Dalibor Marinkovic, Daliborka Nikolic, Achim Kienle, Andreas Seidel-Morgenstern* | 744 *Palladium recovered from Spent Nuclear Fuels as an electrocatalyst for $CO_2$ reduction into CO*<br>Anthony Ropp*, Frédérique Hourcade, Isabelle Rougeaux, Dorottya Hursán |
| 12:00 | 1289 *Tracking Dynamic Evolution of Single Atom Catalyst with In-situ/Operando Spectroscopy*<br>Bidyut Bikash Sarma* | 776 *Insights into Graphene-Embedded Single-Atom Catalysts in Liquid Water: Molecular Dynamics Simulations on the Fe, Co, and Ni Series* Romain Reocreux*, Thomas Vacus, Sam Brooks, Fabian Berger, Angelos Michaelides, Marie-Laure Bocquet |
| 12:10 | 721 *Transient surface degradation of (La,Sr)$CoO_{3-d}$ and (La,Sr)$FeO_{3-d}$ during OER in alkaline electrolyte under dynamic cycling conditions*<br>Felix Gunkel* | *284 Ethylene production and $CO_2$ splitting via a chemical looping system utilizing lattice oxygen of redox-enhanced $In_2O_3$*<br>Kosuke Watanabe*, Takuma Higo, Koki Saegusa, Sakura Matsumoto, Hiroshi Sampei, Yuki Isono, Akira Shimojuku, Hideki Furusawa, Yasushi Sekine |
| 12:20 | 1464 *Catalytic Potential of Exsolved Iron based Oxides as Oxygen Reservoirs*<br>Deblina Majumder*, Shailza Sain,i Alex Martinez Martin, Debayan Mondal, Evangelos I. Papaioannou, Kalliopi Kousi | 247 *The catalytic channel of Co particle, carbon nanotube and defective $TiO_2$ for $CO_2$ hydrogenation*<br>Haoxin Liu* |
| **12:30 – 14:00** | **Lunch break** | |

| 08:45 – 09:45 | **Plenary lecture** | |
|---|---|---|
| Speaker | **Jan-Dierk Grunwaldt** | Professor and director at the Institute for Chemical Technology and Polymer Chemistry, Karlsruher Institute of Technology (KIT), Karlsruhe, Germany |
| Lecture title | *Dynamics in catalysis: From the atomic structure to the reactor scale* | |
| Chairs | Nathalie Tanchoux and Magnus Rønning | |

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D4-S1-T03<br>***Plasmon frontiers / $CO_2$ to chemicals*** | D4-S1-T04<br>***Refinery catalysis: Chemical conversions*** |
| Chairs | Unni Olsbye and Artur Gantarev | Michelle Lynch and De Chen |
| 10:30 | **Keynote lecture:**<br>*Plasmons: From metal ore to catalyst*<br>**Jacinto Sá**, Professor at Uppsala University, Sweden | 628 *Moliner In-situ acetalization strategy for retro-aldolization of glucose catalyzed by niobium oxide and zeolite*<br>Ryota Osuga*, Navya Subray Bhat, Quan Shi, Mizuho Yabushita, Satoshi Suganuma, Emiel J.M. Hensen, Kiyotaka Nakajima |
| 10:50 | | 1172 *Design of Ni-zeolites for ethylene oligomerization: controlling catalyst properties by one-pot and post-synthetic Ni incorporation.*<br>Cristina Martínez*, Adrián Gómez-Aldaraví, Cecilia Paris, Manuel |
| 11:10 | 525 *Efficient $CO_2$ Cycloaddition Reactions at Ambient Pressure and Mild Temperature Using a Zn Single-Atom Catalyst*<br>Nicolò Allasia*, Luis Antonio Cipriano, Giovanni Di Liberto, Gianfranco Pacchioni , Gianvito Vilé | 1140 *From biomass pyrolysis oils to BTXs via catalytic aromatization with zinc and gallium-doped ZSM-5 zeolites*<br>Aitor Arandia*, Veikka Lehtinen, Francesco Sandri, Ida Uotila, Nicolaas Van Strien, Matti Reinikainen, Johanna Kihlman, Juha Lehtonen |
| 11:30 | 13 *Enhanced Catalytic Hydrogenation of $CO_2$ to Formate Using Ruthenium Nanoparticles on Water-Stable Supported Ionic Liquid Phases*<br>Neha Antil*, Alexis Bordet, Walter Leitner | 486 *Reactivity and Intermediate Stereochemistry in Lignin Diol-Stabilized Acidolysis: The Role of Cation-Anion in Triflic Brønsted Acidic Salts*<br>Ge Guo*, Zhenlei Zhang, Jozef.G.M Winkelman, Ciaran W Lahive, Peter.J. Deuss |
| 11:50 | 73 *Direct Conversion of $CO_2$-Captured Alkanolamines into Organic Urea Derivatives over $CeO_2$ Catalyst with Continuous-Flow Reactor*<br>Shogen Mihara*, Natsuki Mizutani, Hikari Terada, Mizuho Yabushita, Yoshinao Nakagawa, Keiichi Tomishige | 871 *Synthesis of Ni-W catalysts supported on glucose/carbon nanotube hybrid carbons for the one-pot cellulose conversion to ethylene glycol*<br>L.S. Ribeiro, R.G. Morais, J.J.M. Órfão, Manuel Fernando Pereira* |
| 12:10 | 1458 *Direct $CO_2$ Hydrogenation to higher Carboxylic acids via Heterogenous Thermo-Catalysis in liquid phase*<br>Satya Sireesha Rameswarapu* | 386 *Hydrogen Transfer Reactions of Internal Alkynes with Secondary Amines on Carbon-Supported Noble Metals*<br>Till De Cahsan* |
| 12:20 | 536 *Green ionic metal-organic frameworks as nanocatalysts for $CO_2$ fixation*<br>Francisco García Cirujano*, Nuria Martín, Miguel Maireles, Julian Sanchez, Belén Altava, Eduardo García Verdugo | 1554 *Automated, Digital Solutions for Accelerated, Quality Assured Power-to-X (PtX) Technologies*<br>Arunraj Chidambaram* |
| **12:30 – 14:00** | **Lunch break** | |

| Room | 3-Cosmos3 | 4-A300 |
|---|---|---|
| Session | D4-S1-T01<br>***Hydrogen production: Electrocatalysis*** | D4-S1-T09<br>***Gaseous emissions:***<br>***NOx abatement catalysis*** |
| Chairs | Andrzej Kotarba and Frode Seland | Hanna Härelind and Silviya Todorova |
| 10:30 | 710 *Performance of Optimised NiFeOOH Catalysts on 3D Electrodes in Alkaline Water Electrolysis under Industrial Conditions*<br>Julia Hoffmann*, Nicolai Schmitt, Christian Goerens, Bastian Etzold | 343 *Mechanistic study of NOx reduction by $H_2$ on Pt/Mo/$ZrO_2$ catalyst using Steady State Isotopic Transient Kinetic Analysis*<br>Daniel Schröder*, Sven Kureti |
| 10:50 | 172 *Towards understanding the dynamics of non-precious metal oxygen evolution catalysts for alkaline water electrolysis*<br>Johanna Schröder*, Miika Mattinen, Giulio D'Acunto, K. Alex A. Persson, Ashton M. Aleman, Elis L. Ponte ,Mikko Ritala, Michaela Burke Stevens, Stacey Bent, Thomas F. Jaramillo | 456 *Revealing the mechanism of $SO_2$ poisoning of Cu-CHA catalyst for $NH_3$-SCR by in situ X-ray absorption spectroscopy*<br>Anastasia Molokova, Gloria Berlier, Elisa Borfecchia, Davide Salusso, Ton V.W. Janssens, Silvia Bordiga, Fei Wen, Kirill Lomachenko* |
| 11:10 | 1092 *Unraveling Surface Structure Dynamics on Model Electrocatalysts*<br>Felix Simon*, Fanny Duquet, Giuseppe Abbondanza, Björn Lönn, Vera Roth, Olof Gutowski, Ann-Christin Dippel ,Björn Wickman, Uta Hejral | 880 *Modeling the Transient Selective Catalytic Reduction by Physics Embedded Neural Networks*<br>Leander Biet* |
| 11:30 | 919 *Metal migration in PEM water electrolysis cells: insights from synchrotron X-ray fluorescence*<br>Leonardo Almeida de Campos, Alexander Rex, Torben Gottschalk, Dario Ferreira Sanchez, Erisa Saraci, Patrick Trinke, Boris Bensmann, Jan-Dierk Grunwaldt, Richard Hanke Rauschenbach, Thomas Sheppard* | 904 *Tracking the surface/subsurface dynamics of $LaFeO_3$-based perovskites under redox excitation*<br>Elise Berrier*, Shreya Nandi, Sagar Sharma, Valerie Theuns, Héloïse Tissot, Anne-Sophie Mamede, Asma Tougerti, Jean-Sébastien Girardon, Martine Trentesaux, Pardis Simon, Jean-François Paul, Emiliano Fonda |
| 11:50 | 1106 *High-tech manufacturing for the next-generation PEM electrolysis*<br>Cássia Sidney Santana*, Jie Shen-Berset, Tim de Visser, Frennie Bens, Davide Ripepi, Bas van Dijk, Oscar Diaz-Morales | 1102 *Speciation of Cu-SCR catalysts under $H_2$-ICE conditions*<br>Lisa Allen*, Roberta Villamaina, Husn Islam, Maria Pia Ruggeri, Paul Millington, David Bergeal, Jillian Collier |
| 12:00 | 767 *Self-supported hydrogen evolution reaction (HER) NiMo for targeted water splitting devices*<br>Ariana Serban*, Xile Hu, Meng Ting Liu, Nanjun Chen, Hao Ming Chen | |
| 12:10 | 1062 *Hydrogen evolution by 2D $MoS_2$ crystals decorated with an iron(III) complex*<br>Soma Keszei*, Péter Vancsó, Gergely Dobrik, Antal Koós, Miklós Németh, József Sándor Pap, Levente Tapasztó | 156 *Revisiting the kinetics of the NOx reduction by $H_2$ on Pt/$WO_3$/$ZrO_2$ catalyst*<br>Vaibhav Patel* |
| 12:20 | 95 *Supported Precious Metal Catalysts for the Removal of Oxygen from Hydrogen Gas*<br>Florian Harth*, Santiago Casu, Christian Breuer, Hans-Jörg Wölk, Ingo Gräf | 1474 *Effects of $H_2O$, $O_2$ and $H_2$ on $NH_3$-SCR for $H_2$-ICE Aftertreatment*<br>Tarık Bercan Sarı*, Selmi Erim Bozbag, Deniz Sanli Yildiz, Can Erkey |
| **12:30 – 14:00** | **Lunch break** | |

| Room | 5-A150 | 6-Andromeda |
|---|---|---|
| Session | D4-S1-T33<br>***$CO_2$ methanation*** | D4-S1-T18/T08<br>***Advancements in catalysis: Oxidations*** |
| Chairs | Bo Peng and Ken Luca Abel | Shannon S. Stahl and Francesca L. Bleken |
| 10:30 | 515 *Inverse CeOx/Co catalysts for low-temperature $CO_2$ hydrogenation*<br>Yu Gao*, Nikolay Kosinov, Emiel Hensen | 1488 *Catalytic oxidation of alcohols over cobalt spinel oxides: A comparison of liquid and gas phase*<br>Alberto Tampieri, Federica Romanelli, Marianne Ivkic, Michael Pittenauer, Moritz Zelenka, Ellen Backus, Karin Föttinger* |
| 10:50 | 668 *Spark ablation: A novel route for powdery metal nanoparticle-based catalysts in $CO_2$ methanation*<br>Plaifa Hongmanorom*, Tobias Pfeiffer, Bernardus Zijlstra, Yingrui Zhao, Sandra Casale, Capucine Sassoye, Damien Debecker | 684 *Modelling of ammonia oxidation taking into account catalyst degradation*<br>Sven Jakobtorweihen*, Felix Beckmann, Jakub Michał Bujalski, Daniela M. Farmer, David Waller, Raimund Horn |
| 11:10 | 457 *Dual Functional Material for $CO_2$ Capture and Conversion: Reaction Pathway and Interaction between Sorbent and Catalyst*<br>Freek Karaçoban, Tomas van Haasterecht, Harry Bitter* | 1472 *Resolving the facet structure of supported Rh and Pt-Rh alloy nanoparticles during ammonia oxidation*<br>Uta Hejral*, Andrea Resta, Stefano Albertin, Alina Vlad, Alessandro Coati, Edvin Lundgren |
| 11:30 | 674 *Boosting $CO_2$ Methanation: Carbon nitride-modified $Co/Al_2O_3$ catalysts enhance thermocatalytic performance*<br>Angelina Barthelmeß*, Dan Zhao, Maik Kahnt, Michael Zimmermann, Enrico Tusini, Timo van Roje, Cherie Hsu, Thomas Sheppard, Anna Zimina, Jan-Dierk Grunwaldt, Moritz Wolf | 173 *A novel method for testing $SO_2$ oxidation catalysts*<br>Christian Hulteberg*, Josephine Digné, Manfred Schmidt, Jan Brandin |
| 11:50 | 956 *Enhancing $CO_2$ methanation performance over a novel Ni/La/HAP catalyst: A pathway to sustainable energy conversion*<br>Nassima Berroug*, Miguel A. Gutiérrez-Ortiz, Juan R. González-Velaco, Zouhair Boukha Ghazi-Jerniti | 1350 *The Simultaneous Total Oxidation of Toluene, Propene and CO Environmental Pollutants Using Bimetallic Au-Pt/$ZrO_2$/UVM-7 Catalysts*<br>Kieran Aggett*, Tomás García, David Morgan, Mario Peláez-Fernández, Álvaro Mayora,l Raul Arenal, Benjamín Solsona, Pedro Amorós, Stuart Taylor |
| 12:10 | 914 *Palladium distribution on shaped alumina and its impact on the catalytic performance for the $CO_2$ methanation*<br>Zafeiria Fragkou Topaloglou*, Mathilde Guilpain, Rémy Herbaut, Sébastien Royer, Damien Bourgeois, Jean-Philippe Dacquin | 1069 *$O_2$ activation by Fe, Mn, Co, and Ni bi-metallic sites for oxidation reactions: DFT and Experimental Study*<br>Agnieszka Kornas, Edyta Tabor, Kinga Mlekodaj, Stepan Sklenak, Jiri Dedecek, Agnieszka Drzewiecka Matuszek, Małgorzata Smoliło-Utrata, Katarzyna Samson, Michał Śliwa, Dorota Rutkowska-Zbik* |
| 12:20 | 678 *Unraveling the behavior of mixed metal oxide catalysts during activation, $CO_2$ methanation and reoxidation by operando methods*<br>Dennis Weber*, Tanja Franken | 417 *Heterogeneous catalysts for oxidation of cyclohexane to KA oil and adipic acid*<br>Tommaso Rizzuti* |
| **12:30-14:00** | **Lunch break** | |

| Room | 7-Aurora |
|---|---|
| Session | D4-S1-T18<br>***Fine chemicals and polymer production/ Photo-/electrocatalysis*** |
| Chairs | Narendra Kumar, Nataša Novak Tušar and Anders Holmen |
| 10:30 | 1131 *Perfluoro-functionalization of Zr-MOFs for Photosynthesis of Hydrogen Peroxide*<br>Yoshifumi Kondo*, Shiori Mizutani, Yasutaka Kuwahara, Kohsuke Mori, Tohru Sekino, Hiromi Yamashita |
| 10:50 | 1306 *Advanced 3D green glass ceramic porous membrane with photocatalytic functionalities for water treatment applications*.<br>Akansha Mehta*, Jozef Kraxner, Mansi Dua, Maria Waqar, Martin Schwentenwein, Enrico Bernardo, Dusan Galusek |
| 11:10 | **Keynote lecture:**<br>*Single-atom catalysis for greener fine chemical synthesis*<br>**Gianvito Vilé,** Associate Professor of Chemical Engineering at Politecnico di Milano, Italy and Recipient of EFCATS Young Researcher Award 2025 |
| 11:50 | 520 *Ligand Engineered In-MOFs with Tuned Energy Structure for Enhanced Photocatalytic $CO_2$ Reduction*<br>Geqian Fang*, Vitaly Ordomsky, Andrei Khodakov |
| 12:10 | 659 *Photochemical Oxidation of Ethylene to Glycolaldehyde Catalyzed by $SnO_2$: The Role of Lattice Oxygen*<br>Vladislav Butenko* |
| 12:20 | 245 *Mechanistic Insights into Peroxide-Activated Cu(I) Complexes for C–H Bond Oxidation Reactions*<br>Ning Cao*, Mouhammed Abu Rasheed, Unni Olsbye, Ainara Nova |
| **12:30-14:00** | **Lunch break** |

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D4-S2-T03<br>***Electrochemical conversion of $CO_2$*** | D4-S2-T04<br>***Refinery catalysis: Hydrodeoxygenation - 2*** |
| Chairs | Gabriele Centi and Christoph Rameshan | Eric Gaigneaux and Christian Hulteberg |
| 14:00 | 1085 *$CO_2$ electrocatalytic reduction in organic electrolytes: redefining challenges and solutions*<br>Daniele Giusi, Veronica Costantino Siglinda Perathone r Gabriele Centi Claudio Ampelli* | **Keynote lecture:**<br>*Unraveling active sites for the catalytic hydrodeoxygenation of lignin-derived compounds: From mechanistic insights to rational design*<br>**Fábio Bellot Noronha** Senior researcher of The National Council for Scientific and Technological Development (CNPq), and researcher of the State of Rio de Janeiro (FAPERJ). Brazil |
| 14:20 | 141 *Carbon-based hybrid materials for electrocatalysis*<br>Zhihong Tian* | |
| 14:40 | 554 *Surface Roughening Effects in Copper-Catalyzed $CO_2$ Electroreduction*<br>Joakim Halldin Stenlid*, Joseph Gauthier, Martin Head-Gordon, Alex Bell, Frank Abild-Pedersen | 226 *Synthesis of acrylic acid via dehydration of lactic acid on mesoporous silica modified with barium*<br>Jong Wook Bae*, Rong Zhao |
| 15:00 | 555 *Quasi-Simultaneous X-ray Absorption Spectroscopy and Diffraction of In-Bi $CO_2$ Electrocatalytic Reduction in a Gas Diffusion Electrode Cell*<br>Mariangela Biggiero*, Hugo P. Iglesias van Montfort, Vaishnavi Ganesh, Kirill A. Lomachenko, Tom Burdyny, Brian Rawls, Florian Meirer, Ward van der Stam, Annelie Jongerius, Bettina Baumgartner, Bert M. Weckhuysen lang | 791 *Detailed characterization of in situ-generated MoS2 nanoparticles for HDO of pyrolysis oil*<br>Jonas Elmroth Nordlander*, Niklas Bergvall, Simone Sala, Ole Reinsdorf, Maik Kahnt, Linda Sandström, Sara Blomberg |
| 15:20 | 497 *What Happens at a Copper Surface during $CO_2$ Electro-reduction Revealed by In Situ Electrochemical Atomic Force Microscopy*<br>Hui Wang*, Bert M. Weckhuysen, Ward van der Stam, Laurens D.B. Mandemaker | 393 *Few layer $MoS_2$ as a catalyst for the bio-oil upgrading to biofuels*<br>Fuli Deng*, Ruixue Zhao, Johannes A. Lercher |
| **15:30 – 16:00** | **Coffee break** | |

| Room | 3-Cosmos3 | 4-A300 |
|---|---|---|
| Session | D4-S2-T01<br>***Hydrogen production: Photocatalysis*** | D4-S2-T18<br>***Advancements in catalysis: In-situ/operando characterization*** |
| Chairs | Uta Hejral and Narcis Homs | Thomas Sheppard and Sara Blomberg |
| 14:00 | 390 *Can better photocatalysts be achieved through ball milling?*<br>Jordi Llorca*, Lluís Soler, Núria J. Divins, Ignasi Burgués, Isabel Serrano, Asier Agrelo, Yufen Chen, Elies Molins, Mónica Benito | 196 *High Spatial Resolution Reactivity Analysis of Catalytic Nanoparticles with Operando IR Nanospectroscopy Measurements*<br>Elad Gross* |
| 14:20 | 582 *Using Ferroelectric Polarization to Tune Electronic Properties and Surface Catalytic Activity for Photoelectrochemical Water Splitting*<br>Judy Hart*, Owen Bowdler, Michael Gunawan, Rose Amal, Nagarajan Valanoor, Jason Scott, Cui Ying Toe | 179 *Outstanding surface reaction investigation using pulse microreactor inside a calorimeter: The study of isopropanol dehydration*<br>Tristan Cabanis*, Aline Auroux, Jean-Luc Dubois, Nicolas Sbirrazzuoli, Georgeta Postole |
| 14:40 | **Keynote lecture:**<br>*Harnessing light for a cleaner future: Advances in heterogeneous photocatalysis*<br>**Albin Pintar**, Research professor and Head of the programme group »Integrated Approach to Water Pollution Prevention« at the National Institute of Chemistry, Ljubljana, Slovenia | 1113 *Laser induced temperature-jump time-resolved infrared spectroscopy of zeolites*<br>Amy Edmeades*, Alexander Hawkins, Russell Howe, Gregory Greetham, Mike Towrie, Richard Catlow, Paul Donaldson |
| 15:00 | | 1012 *Tracking the evolution of Co-based single atom catalysts for the $CO_2$ electroreduction reaction: an operando XAS study*<br>Andrea Martini* |
| 15:20 | 30 *Atomic defects in mesoporous $TiO_2$ enhance solar photocatalytic activity: A structural insight into defect creation and stabilization*.<br>Edith Mawunya Kutorglo*, Jan Šmahlík, Yusef Hassan, Reinhard Schomäcker, Miroslav Šoóš, Michael Schwarze | 1258 *Three-way catalyst nanoparticle stability tracking under ambient pressure gas flow and heat – insights by in-situ HRTEM*<br>Phuc Hai Nguyen*, Nathalie Claes, Sara Bals, Kei Muramoto |
| **15:30 – 16:00** | **Coffee break** | |

| Room | 5-A150 | 6-Andromeda |
|---|---|---|
| Session | D4-S2-T11<br>***Special session: Light as a reagent- 1*** | D4-S2-T38<br>***Advancements in catalysis: Fuel cells/electrolysis. Theory/modeling*** |
| Chairs | Jacinto Sá and Géraldine Masson | David Waller and Derek C. Creaser |
| 14:00 | 96 *Better Organic Synthesis with Light*<br>Burkhard Koenig, Jonas Düker, Vincent George*, Indrajit Ghosh | 937 *Mitigating Silica Impurities in Solid Oxide Electrolysis Cells for Enhanced Performance* Daniel Bruun*, Elena Marzia, Sala Peter, Blennow Jakob Munkholt Christensen, Anker Degn Jensen |
| 14:20 | 104 *Photocatalytic asymmetric homocoupling of aniline with platinum-loaded titanium oxide photocatalyst*<br>Kexin Zou, Akira Yamamoto, Hisao Yoshida* | 1300 *Structural and chemical stability of $LaSrCoFeO_3$ perovskites for ammonia-fueled solid oxide fuel cells*<br>Alicia San Martin Rueda*, Faranak Foroughi, Ingeborg-Helene Svenum, David Waller, Magnus Rønning |
| 14:40 | 916 *Photocatalytic OH Radicals for Alkanes and Olefins Activation*<br>Chunyang Dong, Yinghao Wang*, Andrei Khodakov, Vitaly Ordomsky | 1508 *Oxygen Reduction Reaction in Alkaline Fuel Cells: A Focus on Catalysts Selectivity and Radical Formation*<br>Krzysztof Kruczała*, Szymon Wierzbicki, John C. Douglin, Dario R. Dekel |
| 15:00 | 83 *Tailoring Nanocatalytic Interfaces for Efficient Light-Driven Energy and Environmental Applications*<br>Hiang Kwee Lee* | 379 *Hydrogen dissociation on Co(0001) – Effect of adsorbate ions*<br>Ali Can Kizilkaya*, Ingeborg-Helene Svenum, Hilde Johnsen Venvik, Kees-Jan Weststrate |
| 15:20 | 762 *Photocatalytic Glycol-Cleavage over Rutile $TiO_2$ for the Selective Production of Aldehydes and $H_2$*<br>Luke Roebuck*, Marta Falkowska, Chris Hardacre | TBA |
| **15:30 – 16:00** | **Coffee break** | |

| Room | 7-Aurora |
|---|---|
| Session | D4-S2-T14<br>***Special session: From data to AI- 1*** |
| Chairs | Pedro F. Mendes and Núria López |
| 14:00 | 534 *Predictive Dynamical Modelling of Zeolitic Catalysts via a Flexible Reactive Machine Learning Framework*<br>Andreas Erlebach, Daniel Willimetz, Chen Lei, Carlos Bornes, Tereza Benešová, Indranil Saha, Christopher J. Heard, Lukas Grajciar* |
| 14:20 | 481 *Materials Genes of $CO_2$ Hydrogenation on Supported Cobalt Catalysts: an AI Approach Integrating Theoretical and Experimental Data*<br>Ray Miyazaki* Kendra S Belthle Harun Tüysüz Lucas Foppa Matthias Scheffler |
| 14:40 | 326 *The role of bulk intercalation in the electrocatalytic hydrogen evolution reaction on tungsten oxides*<br>Giannis Mpourmpakis* |
| 15:00 | 757 *Learning kinetics from integral data of non-ideal reactors using global reaction neural networks*<br>Tim Kircher* Martin Votsmeier |
| 15:10 | 1120 *Explainable Artificial Intelligence Elucidates Synthesis-Structure-Property-Function Relationships in Nanostructured Catalysts*<br>Marc-Eduard Usteri* Manu Suvarna Frank Krumeich Sharon Mitchell Javier Perez-Ramirez |
| 15:20 | 714 *Data-Driven Approaches for Accelerated Catalyst Discovery and Digital Research* Mohammad Khatamirad* Raoul Naumann d'Al non Court Michael Geske Edvin Fako Tiago Goncalves Sandip De Stephan A. S. Schunk Sonja Schimmler Frank Rosowski |
| **15:30 – 16:00** | **Coffee break** |

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D4-S3-T03<br>***Methane dry reforming of $CO_2$*** | D4-S3-T18<br>***Advancements in catalysis: Materials and fundamentals*** |
| Chairs | Harry Bitter and Deniz Uner | Jordi Llorca and Nathalie Tanchoux |
| 16:00 | 788 *High-performance Ni-based catalysts via SOMC for dry reforming of methane*<br>Wei Wang*, Christophe Copéret | 282 *Galvanic Coupling Measurements as a Predictive Tool for Cooperative Redox Enhancement (CORE) in Thermocatalytic Alcohol Oxidation*<br>James Spragg*, Bohyeon Kim, Isaac Daniel, Steven McIntosh, Graham Hutchings |
| 16:20 | 697 *Atomic Ni/$Al_2O_3$ clusters for enhanced $H_2$ production from low-temperature dry methane reforming*<br>Elisabetta Bonaglia*, Seongmin Jin, Jeremy S. Luterbacher | 531 *Sulfur-centered Lewis superacid on sulfated zirconium oxide drives polyolefin depolymerization*<br>Alexander A. Kolganov*, Ratchawi Jammee, Marc Groves, Orson Sydora, Matthew Conley, Evgeny Pidko |
| 16:40 | 596 *Effects of feed impurities on dry reforming over a Ni-Ce-Zr catalyst*<br>Bjørn Christian Enger* | 783 *Heterogeneous Catalysis Mediated Cofactor Regeneration for Biosynthesis*<br>Xiaodong Wang*, Jianwei Li, Joseph Burnett, Wilm Jones, Russell Howe |
| 16:50 | 1484 *Synthetic Fuel Production under modern CCU Technologies*<br>András Sápi* | |
| 17:00 | 401 *The exciting world of high-temperature dry reforming of methane investigated with in-situ spectroscopy*<br>Florian Schrenk*, Lorenz Lindenthal, Hedda Drexler, Tobias Berger, Jonathan Rollenitz, Karin Föttinger, Christoph Rameshan | 590 *$CO_2$ capture and methanation on the 3D printed modified mesoporous silicas*<br>Margarita Popova*, Grigoria Teohari, Svilen Simeonov, Ivalina Trendafilova, Boian Mladenov |
| 17:10 | 660 *Kinetic relevance of water in the dry reforming of methane on Ni-based catalyst coatings*<br>Enes Caliskan*, Luca Nohel*, Samuel Lichtenberger, Verena Schallhart, Lukas Möltner, Elias Klemm | 1296 *Small Ni-Fe zeolite-supported bimetallic nanoparticles: purposeful synthesis and functional properties*<br>Ivan Kopa, Olha Yevdokimova, Päivi Mäki-Arvela, Dmitry Murzin, Nataliya Shcherban* |
| 17:20 | 238 *Bridging Lab-Scale and Industrial Applications: Advanced Catalyst Testing for $CO_2$ Conversion via rWGS and Dry Reforming*<br>Benjamin Mutz, Robert Baumgarten, Christoph Hauber*, Fabian Schneider | 236 *DLP 3D printing revolutionizes practical heterogeneous catalysis*<br>Luca Mastroianni, Ananias De Jesus Medina Ferrer Kari Eränen, Martino Di Serio, Vincenzo Russo, Dmitry Murzin, Tapio Salmi* |

| Room | **3-Cosmos3** | 4-A300 |
|---|---|---|
| Session | D4-S3-T09<br>***Gaseous emissions catalytic aftertreatment ($NH_3$, $N_2O$, NOx, …)*** | D4-S3-T17<br>***CATHEX special session: Sustainable fuels and chemicals via syngas -1*** |
| Chairs | Lucie Obalová and Jakob Munkholt Christensen | Ingeborg-Helene Svenum and Felix Herold |
| 16:00 | 818 *Structure-sensitivity of Platinum during Selective Ammonia Oxidation for Emission Control Applications*<br>Vasyl Marchuk*, Pieter Glatzel, Dmitry I. Sharapa, Jan-Dierk Grunwaldt, Dmitry E. Doronkin | 1060 *Crystallite size dependency in iron-based Fischer-Tropsch CO and $CO_2$ hydrogenation*<br>Marian Chen, Mohamed Fadlalla, Hennie Kotze, Nico Fischer, Alexis Bordet, Dominikus Heift, Bruno Chaudret, Michael Claeys* |
| 16:20 | 882 *Site-specific reactions for $N_2O$ utilization and abatement over Fe-exchanged zeolites: an operando spectroscopy study*<br>Daniel Camilo Cano-Blanco*, Jörg Fischer, Filippo Buttignol, Daniele Bonavia, Gabriela Dutca, Gunnar Jeschke, Oliver Kröcher, Davide Ferri | 840 *Reaction-driven formation of novel active sites on catalytic surfaces*<br>Emmanouil Mavrikakis* |
| 16:40 | 578 *HCN formation from propene and $NH_3$ over $V_2O_5$-$WO_3$/$TiO_2$*<br>Jingjing Liu*, Hong He, Davide Ferri | 562 *Single-Step Syngas-to-Dimethyl Ether Synthesis on Nanoparticle-Derived PdZn/ZnO/mp-HZSM-5 and Pd/$CeO_2$/$Al_2O_3$ Catalysts*<br>Bing Wang ,Zairan Yu, Shuang Chen, Nicola Da Roit, Michael Zimmermann, Yuemin Wang, Silke Behrens* |
| 17:00 | 910 *Cooperative red-ox mechanism during simultaneous conversion of $N_2O$ and NO*<br>Filippo Buttignol, Jörg W. A. Fischer, Alberto Garbujo*, Pierdomenico Biasi, Gunnar Jeschke, Oliver Kröcher, Magdalena Zybert, Davide Ferri | 1204 *Flame-made copper-ceria structure as excellent high-temperature rWGS catalyst attributed to a triplet reaction pathway*<br>Bingqiao Xie*, Oliver Krocher, Rose Amal |
| 17:10 | 1457 *Supercritical Ion Exchange for Tailored Cu Active Sites in SSZ-13 for $NO_x$ Reduction via $NH_3$-SCR*<br>Tarık Bercan Sarı*, Selmi Erim Bozbag*, Hamed Yousefzadeh, Deniz Şanlı, Yıldız Can Erkey | *702 In situ XAS investigation of Co-based model catalysts for FTS*<br>Rabia Ilica*, Dan Zhao, Erisa Saraçi, Enrico Sireci, Cherie Hsu, Moritz Wolf, Felix Studt, Mohamed Fadlalla, Michael Claeys, Jan-Dierk Grunwaldt, Anna Zimina |
| 17:20 | 1067 *Rate of $NH_3$-SCR over hydrothermally aged Cu-CHA catalysts*<br>Shivangi Singh*, Henrik Grönbeck, Ton. V. W Janssens | 675 *Direct conversion of syngas to acetic acid by a molecular one-way valve strategy*<br>Suhan Liu* |

| Room | 5-A150 | 6-Andromeda |
|---|---|---|
| Session | D4-S3-T11<br>***Special session:***<br>***Light as a reagent- 2*** | D4-S3-T38<br>***Advancements in catalysis:***<br>***In-situ/ operando characterization*** |
| Chairs | Jacinto Sá and Géraldine Masson | Günther Rupprechter and Jan Knudsen |
| 16:00 | 1471 *The uncommon photocatalytic generation of singlet oxygen by silanized $TiO_2$ nanoparticles*<br>Massimiliano D'Arienzo*, Francesco Parrino, Sandra Diré, Riccardo Ceccato, Emanuela Callone, Lorenzo Viganò | 10 *Unraveling Ammonia Synthesis: New Insights from in Operando APXPS at High Pressures*<br>Christopher Goodwin* |
| 16:20 | 233 *Protein-driven electron-transfer process in a fatty acid photodecarboxylase*<br>Giacomo Londi*, Lorenzo Cupellini, Benedetta Mennucci | 1186 *Towards Bridging the Pressure Gap in Analyzing Catalytic Reactor Effluents with Photoionization Mass Spectrometry*<br>Morsal Babayan*, Esko Kokkonen, Evgeniy Redekop, Samuli Urpelainen, Unni Olsbye, Marko Huttula |
| 16:40 | 388 *Photo-rechargeable Batteries: Convert and Store the Light*<br>Taymaz Tabari*, Przmyslaw Labuz, Sanjay Mathur, Zbigniew Sojka, Wojciech Macyk | 1086 *Reduction dynamics of $Ru/Al_2O_3$ monitored by temperature programmed operando methods* Paolo Lazzarini*, Alberto Ricchebuono, Daniele Bonavia, Stefano Checchia, Riccardo Pellegrini, Davide Ferri, Andrea Piovano, Elena Groppo |
| 17:00 | 125 *Amine-based Solid Molecular Catalysts in Photocatalytic Applications*<br>Sarah Brettschneider*, Keanu Birkelbach, Regina Palkovits | 106 *Insights from Raman Spectroscopy on noble (Ir) and non-noble (Ni) electrocatalysts for oxygen evolution reaction*<br>Angelja Kjara Surca*, Leonard Moriau, Anja Logar, Luka Suhadolnik, Marjan Bele, Nejc Hodnik |
| 17:10 | 276 *Visible-Light Driven Synthesis of Bis(indolyl)methanes from Indoles and Alcohols via Interrupted Borrowing Hydrogen Strategy Employing Perylene Monoimide Photocatalysts*<br>Premnath Das*, Priyanath Das, Sanjib.K Patra | |
| 17:20 | 328 *Photolytic Activation of Ni(II)-X Bonds Explains Initiation and C-H Activation in C(sp2)-C(sp3) Bond Forming Reactions*<br>Max Kudisch*, Reagan Hooper, Lakshmy Valloli, Justin Earley, Anna Zieleniewska, Jin Yu, Stephen Di Luzio, Hannah Sayre, Xiaoyi Zhang, Matthew Bird, Amy Cordones, Garry Rumbles, Obadiah Reid | 987 *Ag restructuring during methanol to formaldehyde conversion: An In situ X-ray ptychography and electron microscopy study*<br>Srashtasrita Das, Maik Kahnt, Youri van Valen*, Tina Bergh, Sara Blomberg, Mikhail Lyubomirskiy, Christian Schroer, Hilde Venvik, Thomas Sheppard |

| Room | 7-Aurora |
|---|---|
| Session | D4-S3-T14<br>***Special session:***<br>***From data to AI- 2*** |
| Chairs | Pedro F. Mendes and Núria López |
| 16:00 | 1321 *Machine Learning guided Zeolite Preparation using Literature augmented Datasets*.<br>Daniel Costa*, Leonor Frazão*, Victor Costa ,Filipa Ribeiro, Pedro Mendes |
| 16:20 | 769 *A Database for Catalysis*<br>Julia Schumann, Michael Götte, Lauri Himanen, Abdulrhman Moshantaf, Hampus Näsström, Markus Scheidgen, José A. Márquez, Annette Trunschke* |
| 16:40 | 1125 *ML-Prediction of Adsorption and Surface Reaction Energies*<br>Aleix Comas-Vives* |
| 17:00 | 296 *Exploration of a multi-dimensional promoter space via machine learning*<br>Aybike Terzi*, Christian Kunkel, Frederik Rüther, Frederic Felsen, Charles W. Pare, Robert Baumgarten, Esteban Gioria, Raoul Naumann d'Alnoncourt, Christoph Scheurer, Frank Rosowski, Karsten Reuter |
| 17:10 | 689 *Closed-loop ML-driven catalyst optimization at ETHZ SwissCAT+*<br>Yuhui Hou* |
| 17:20 | 1242 *Applications of universal interatomic potentials on Pd-based model systems*<br>Tor S. Haugland*, Daniel Marchand, Ingeborg-Helene Svenum, Stefan Andersson, Ole M. Løvvik |

| Room | 1-Cosmos1 | 2-Cosmos2 |
|---|---|---|
| Session | D5-S1-T03<br>***$CO_2$: Emerging chemistries*** | D5-S1-T18<br>***Advancements in catalysis: Catalyst synthesis*** |
| Chairs | Margarita Popova and David Kubička | Florian Harth and David Waller |
| 09:00 | **Keynote lecture:**<br>*Transformative catalysis for a resilient and low-carbon future (Centi and Perathoner)*<br>**Gabriele Centi** Professor in Industrial Chemistry at the University of Messina, Italy and President European Research Institute of catalysis | 1119 *Aquivion®-based spray-freeze dried composite catalystsfor the one-pot cascade synthesis of γ-valerolactone*.<br>Alessandro Allegri, Anna Saotta, Francesca Liuzzi, Giuseppe Fornasari, Luca Ciacci, Enrica Giannotti, Geo Paul, Claudio Oldani, Alice Cattaneo, Andrea Brigliadori, Stefania Albonetti* |
| 09:20 | | 1417 *Barium Alginate Gel Beads: A Homochiral Porous Material for Heterogeneous Asymmetric Catalysis*<br>Nathalie Tanchoux*, Pietro Pecchini, Daniel Antonio Aguilera, Maria Francesca Fochi, Pierrick Gaudin, Luca Bernardi |
| 09:40 | 65 *AutoMeth: Catalytic Technology for Biomethane Production*<br>Rossana Boccia, Elena Martin Morales, Martí Biset-Peiró, John Chamberlain, Jordi Guilera* | **Keynote lecture:**<br>*"Vision without execution is hallucination" (T.A. Edison) Effective strategies for scale-up of heterogenous catalysts*<br>**Gerhard Mestl** Head of Department *Oxidation Catalysis*, Clariant AG, Germany |
| 10:00 | 1068 *CO2 co-feeding to mitigate deep oxidation in methane coupling*<br>Yonggang Cheng, Parviz Yazdani, Pedro Mendes*, Joris Thybaut | |
| 10:20 | 1383 *Versatile carbide-based materials in catalysis: CO2 reduction to syngas and H2 photo-production*<br>Adrià Sánchez, Margarita Bania, Matthijs Koning, Pilar Ramírez de la Piscina, Narcis Homs* | 779 *Speciation of Active Sites in Sn-zeolite Catalysts Prepared via the ADOR Synthesis Approach*<br>Yuqi Zhang, Carlos Bornes, Mariya Shamzhy* |
| 10:40 | 482 *Pilot-scale integrated CO2 capture and methanation using novel perovskite-derived dual function materials: a parametric study*<br>Jon Ander Onrubia Calvo*, Elena Gómez Bravo, Beñat Pereda-Ayo, José Antonio González Velasco, Juan Ramón, González Velasco | 1291 *Epoxide driven sol-gel synthesis of Ni/Al2O3 based catalysts for ethanol dry reforming: Kinetic effect of CeO2 over coke gasification*<br>Feilong Yang*, Damien Debecker |
| 10:50 | 1011 *Innovative CO2 Capture & Utilization Technologies: Porous Liquids*<br>Jyri-Pekka Mikkola*, Shokat Sarmad, Darius Nikjoo | 1103 *Mechanochemical approach for the synthesis and modification of carbon catalysts for methane pyrolysis*<br>Nicolas Fonda*, Deborah Perco, Maila, Alessandro Baraldi, Alessandro Trovarelli |
| **11:00 – 11:30** | **Coffee break** | |

| Room | 3-Cosmos3 | 4-A300 |
|---|---|---|
| Session | D5-S1-T09<br>***Gaseous emissions treatment: Catalytic aftertreatment of carbon containing species*** | D5-S1-T17<br>***CATHEX special session: Sustainable fuels and chemicals via syngas - 2*** |
| Chairs | Ljubiša Gavrilović and Eric Gaigneaux | Ingeborg-Helene Svenum and Felix Herold |
| 09:00 | 204 *Optimizing Oxygen Transfer and Pd Properties through Morphology Engineering of Ceria Catalysts for Lean Methane Oxidation*<br>Martim Chiquetto Policano*, Leon Lefferts, Jimmy Alexander, Faria Albanese | 1500 *Diverse Active Site Structures on Transition Metal Oxide Surfaces and their Kinetic Consequences in C-H Bond Activation Catalysis*<br>William Broomhead, Arvind Chauhan Guangming Cai Ya-Huei (Cathy) Chin* |
| 09:20 | 605 *Computational Prediction of Catalytic Activity for $CH_4$ Combustion by Automated Reaction Route Mapping*<br>Shiho Sakuma*, Shunsaku Yasumura, Kenichiro Saita, Tetsuya Taketsugu, Masaru Ogura | 1540 *Controlling Selectivity in Catalytic Hydrogenation via Regulating Adsorption Configuration*<br>Yueqiang Cao*, Xinggui Zhou, Xuezhi Duan, De Chen |
| 09:40 | 797 *Doped-ceria nanoshapes for soot oxidation: effect of surface chemistry and particle restructuring on reaction pathways and contact sites*<br>Enrico Sartoretti*, Fabian Hagen, Chiara Novara, Marco Piumetti, Henning Bockhorn, Samir Bensaid | 782 *Key Role of Realistic Surface Coverages in First-Principles Microkinetic Models for COx Hydrogenation*<br>Konstantijn Rommens*, Thobani Gambu, Mark Saeys |
| 10:00 | 1332 *Overcoming Activity/Stability Trafeoffs in CO Oxidation by Pt/$CeO_2$*<br>Benjamin Bohigues Vallet*, Sergio Rojas-Buzo, Davide Salusso, Yu Xia, Avelino Corma, Silvia Bordiga, Mercedes Boronat, Tom Willhammar, Manuel Moliner, Pedro Serna | 681 *Conversion of Synthesis Gas into Isobutylene over Zirconia-based Catalysts for the Production of Sustainable Aviation Fuels*<br>Niko Heikkinen*, Laura Keskiväli, Krista Kuutti, Rasmus Ikonen, Bhumi Baraiya, Ville Korpelin, Manu Lahtinen, Jaana Kanervo, Mikko Heikkilä, Xinwei Ye, Bert Weckhuysen, Karoliina Honkala, Juha Lehtonen, Matti Reinikainen |
| 10:20 | 1227 *First-Principles Study of Ceria-Zirconia-Supported Catalysts*<br>Sarah Bernart*, Ivo Filot, Emiel Hensen | 654 *Optimizing the Conversion of DME to C3 & C4 Paraffins over Pd/Beta*<br>Candace Eslick* Shaine Raseale Stephen Roberts Jack Fletcher |
| 10:30 | | 883 *Low Temperature Syngas-to-Olefins Conversion: The Role of Zinc Incorporation in a MnZr Oxide-Zeolite Catalyst*<br>Willem De Meyer*, Alexandra Bouriakova, Cindy Adam, Walter Vermeiren, Kevin M. Van Geem,, Vladimir V. Galvita Joris W. Thybaut |
| 10:40 | 1218 *Challenges in low-temperature soot oxidation for DPFs*<br>Samuel af Ugglas*, Nadezda Sadokhina, Anders Ersson, Dawei Yao, Lars J. Pettersson, Henrik Kusar | 1055 *The Effect of Metal Vacancies on Fischer-Tropsch Catalysis Using a Two-Dimensional Molybdenum Carbide MXene*<br>Evgenia Kountoupi*, Yevkeni Wisse, Joseph Halim, Christoph Müller, Vitaly Ordomsky, Johanna Rosen, Alexey Fedorov |
| 10:50 | 1430 *Combining systematic characterization with DFT modeling: design of a bimetal/ -alumina VOC low-temperature oxidation catalyst*<br>Matej Bubaš* | 991 *Operando STM Investigation of Fischer-Tropsch Synthesis on Co(10$\bar{1}$2)*<br>Shitha Valsan Korachamkandy*,Elahe Motaee, Menno Heijnen, Irene Groot |
| **11:00 – 11:30** | **Coffee break** | |

| Room | 5-A150 |
|---|---|
| Session | D5-S1-T28<br>***Advancements in catalysis: Theory and modeling*** |
| Chairs | Dorota Rutkowska-Zbik and Tor S. Haugland |
| 09:00 | 324 *New insights into the mechanism of the Haber-Bosch process*<br>Simon Ingeman Hansen, Benjamin Heckscher Sjølin, Ivano Eligio Castelli, Tejs Vegge, Anker Degn Jensen, Jakob Munkholt Christensen* |
| 09:20 | 1211 *Efficient Rare Event Simulation via Path Sampling with Asynchronous Replica Exchange and Infinite Swaps*<br>Titus Van Erp* |
| 09:40 | 319 *Impact of Amorphous Structure on CO2 Electrocatalysis: A Combined Machine Learning Forcefield and DFT Modelling Approach*<br>Akshayini Muthuperiyanayagam* |
| 10:00 | 1061 *Solvent-Voltage model for water splitting on Nickel Phosphide catalyst*<br>Syam Sadan*, Sander Hanslin, Jaakko Akola, Ingeborg-Helene Svenum |
| 10:20 | 988 *$CO_2$ Utilization Through Reaction with Alcohols: A Computational Mechanistic Study*.<br>Francesca L. Bleken*, Klaus-J. Jens, Richard H. Heyn, Ole Swang |
| 10:30 | 1401 *Machine Learning-Driven Molecular Dynamics Unveil a Bulk Phase Transformation Driving Ammonia Synthesis on Barium Hydride*<br>Axel Tosello Gardini*, Umberto Raucci, Michele Parrinello |
| 10:40 | 993 *Influence of morphology and hydroxyls of alumina on Pt1 stabilization*<br>Martin Cotoni* |
| 10:50 | 547 *Metal-Heteropolyacids Complexes as Promising Catalysts in Photocatalytic Reaction. DFT Study.*<br>Renata Tokarz-Sobieraj*, Dorota Rutkowska-Zbik, Piotr Niemiec |
| **11:00 – 11:30** | **Coffee break** |

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|---|---|---|
| 11:30 - 11:40 | **2025 Francois-Gault-Lectureship Award** | |
| 11:40 - 12:40 | **Plenary lecture** | |
| Speaker | **Shannon S. Stahl** | Professor of Chemistry, Steenbock Professor of Chemical Sciences at University of Wisconsin – Madison, USA<br>Recipient of 2025 Robert K. Grasselli Award for Catalysis |
| Lecture title | *Managing the oxygen reduction reaction to support the aerobic oxidation of organic molecules* | |
| Chairs | David Kubička and Hilde J. Venvik | |
| 12:40 - 13:00 | **Closing of congress**<br>EFCATS update<br>Closing remarks<br>Invitation to EuropaCat 2027 | |
| Chairs | EFCATS President and Hilde J. Venvik | |

# Poster sessions

## Monday September 1, 17:30 – 19:30

| Poster ID | Monday September 1 | Hydrogen production in a low emissions scenario | | P1, Pirsenteret |
|---|---|---|---|---|
| 24 | Low Overpotential, High Impact: NiO Catalysts for Alkaline Media Electrolysis | Aswin | Gopakumar | Institut Català d'Investigació Química (ICIQ) |
| 66 | Stability Investigations of BiVO4 and LaTiO2N Particles for Photocatalytic Water Splitting | Jakob | Praxmair | University of Salzburg |
| 86 | Hydrogen from steel-making gases: a challenge for reactor configuration and catalyst design | Salvador | Ordonez | University of Oviedo |
| 726 | Tuning the properties of alkali metal poly(heptazine-imides) for CO2 adsorption and activation | Salvador | Ordonez | University of Oviedo |
| 194 | Enhanced Hydrogen Evolution Reaction Performance Using Recycled NiCoMn Materials | Juliana | Sousa | INL |
| 208 | Cobalt-Based MOF catalysts for efficient photothermal ammonia decomposition and synthesis | Alejandra | Rendon Patino | King Abdullah Univ.of Sci.and Technology |
| 229 | Plasmon-assisted Formic Acid Dehydrogenation (FADH) by Molecular Catalyst Hybrids: towards in situ large-scale H2 production | Maria | Louloudi | University Of Ioannina |
| 230 | Multimetal Catalytic-Perovskites as CoCatalysts in H2-Production via HCOOH Dehydrogenation by Molecular-Catalysts | Maria | Louloudi | University Of Ioannina |
| 234 | Engineering of Multimetal Catalytic-Perovskites La0.75Sr0.25Cr0.9M0.1O3 (M=Mn, Fe, Co, Ni) for SOEC in one-step by Flame Spray Pyrolysis Technology | Yiannis | Deligiannakis | University Of Ioannina |
| 266 | Plastic decomposition with microwave energy yielding hydrogen and carbon nanotubes | Motlokoa | Khasu | University of Cape Town |
| 300 | Co-Ce based catalysts supported on SiO2 for preferential CO oxidation in hydrogen reach gases | Silviya | Todorova | Bulgarian Academy of Sciences |
| 316 | Computational and experimental studies of single atom alloy catalysts for NH3 synthesis | Geofrey | Njovu | University of Oxford |
| 322 | An optimized synthesis procedure of Au/Cu-Zn-Al catalyst for one-step water-gas shift reaction: Transfer to a higher TRL | Dimitrinka | Nikolova | Bulgarian Academy of Sciences |
| 335 | BaCeO3−xNyHz catalyst synthesized from CeO2 nanoparticle prepared by supercritical hydrothermal method | Kaito | Niita | Institute of Science Tokyo |
| 337 | GHG Reduction through Low-Temperature Decomposition of Ammonia and Nitrous Oxide | Jesus | Rodriguez Castanon | Sumitomo Chemical Co., Ltd. |
| 351 | Enhanced performance of bi-metallic Ni-Ru catalyst supported on alumina MOF for methane tri-reforming | Arisha | Sharma | Indian institute of technology Roorkee, India |
| 361 | Role of Nitrogen Vacancy Sites in Oxynitride Supports in Enhancing Catalytic Activity for Ammonia Decomposition | Kazuki | Miyashita | Institute of Science Tokyo |
| 366 | Efficient Proton Conduction via Hydrogen-bonded Water Network Confined in Nano-porous Beta-type Zeolite under Neutral Condition | Haruka | Ukita | Seikei University |
| 382 | H2 production by glycerol photoreforming: Influence of the support on the Au-Ni photoactivity | Eleonora | La Greca | University of Catania |
| 409 | Tailoring Bimetallic Gold Nanoclusters on CeO2 in heterogenous catalysis: Insight into ligand effects on Water-gas shift and CO oxidation reactions with XAFS and DRIFT studies | Sebastian | Mößlacher | TU Wien |
| 422 | Probing the Metal/Oxide Interface of IrCoCeOx in N2H4·H2O Decomposition: An Experimental and Computational Study | Ilaria | Barlocco | Università degli Studi di Milano |

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| 450 | Synergetic effect between Pd and Ni on CeO2 in the partial oxidation of methane: an operando characterisation study | Laia | Pascua Solé | Universitat Politècnica de Catalunya |
| 452 | Mesostructured Cobalt-Manganese Oxides Electrocatalyst for Oxygen Evolution Reaction | Jean Pascal | Fandré | Max Planck Institute |
| 455 | Green biosynthesis of WO3 nanoelectrodes by anodization using vegetal extracts for the energetic transition | Ramón M. | Fernández-Domene | Universitat de València |
| 469 | Particle Size and Catalyst Bed Configurations for DBD Plasma-Catalysis in Hydrogen Production | Jordi | Guilera | Catalonia Institute for Energy Research |
| 489 | Investigation of modified Pd-catalysts for stable biogenic formic acid dehydrogenation in batch and continuous operation | Tamara | Hein | F.-A.-Universität Erlangen-Nürnberg |
| 569 | Dry Reforming of Methane over Co-Al Catalysts Prepared by Solution Combustion Synthesis | Manap-khan | Zhumabek | D.V.Sokolsky Institute of Fuel, Catalysis and Electrochemistry |
| 606 | Thiocoumarin-based Au(I) Complexes and Au(0) Systems as Hybrid Selective Contacts over TiO2 Photocatalysts for Hydrogen Evolution | Jordi | Llorca | Technical University of Catalonia |
| 629 | High-performance alkaline water electrolysis on magnetron-sputtered transition metal-based electrocatalysts | Isilda | Amorim | International Iberian Nanotech-nology Laboratory |
| 643 | Unlocking Low-Temperature Ammonia Decomposition via an Iron Metal–Organic Framework-Derived Catalyst Under Photo-Thermal Conditions | Angel | Sousa | King Abdullah Univ.of Sci.and Technology |
| 652 | Z-scheme water splitting using Fe2O3 as an oxygen evolving photocatalyst | Hideki | Kato | Tohoku University |
| 725 | Cellulose and Chitosan Based Carbon Aerogel Supported Pt Electrocatalysts Via Supercritical Deposition for Hydrogen Evolution Reaction | Ala A. A. Moqbel | Alsuhile | Koç University |
| 922 | Structure and dynamics of the catalytically active surface phase of Ni-based anodes for the alkaline oxygen evolution reaction | Jan Philipp | Hofmann | TU Darmstadt |
| 943 | Harnessing synergy between nanoparticles and single atoms on C3N4 ultrananosheets for enhanced hydrogen evolution | Gaia | Castellani | University of Trieste |
| 950 | Developing bifacial photoelectrodes in a PEC device | Ingeborg-Helene | Svenum | NTNU / SINTEF |
| 977 | Methane pyrolysis over Fe/Co catalysts for COx-free H2 production | Elpida | Zeza | Centre for Research & Technology, Hellas |
| 1039 | Investigating the Effect of Cerium Loading on the Oxygen Evolution Reaction (OER) Performance of Iridium-Based Catalysts | Merve | Kurt | Karlsruhe Institute of Technology |
| 1070 | DFT Studies on Single Atom and Sub-nanometer Copper Clusters and Cu-MOF Deposited on Titania for H2 Photocatalytic Generation | Dorota | Rutkowska-Zbik | Jerzy Haber Institute of Catalysis and Surface Chemistry |
| 1129 | Development of 3D gas diffusion electrodes with controlled and tunable catalyst composition for AEM water electrolysers | Fabrizio | Lisi | University of Bologna |
| 1207 | Operando Insights into the Structural Dynamics and Catalytic Activity of Fe-doped Ammonium Cobalt Phosphates for Oxygen Evolution Reaction | Maria Victoria | Martínez-huerta | Institute of Catalysis and Petrochemistry, CSIC |
| 1216 | Exploring cobalt-free lanthanum strontium ferrite perovskite materials for the electrode of symmetrical solid oxide cells | Siavash | Alizadeh Farsangi | International Iberian Nanotechnology Laboratory (INL) |
| 1324 | Molecular Engineering of Amorphous Molybdenum Sulfides for Efficient Hydrogen Evolution Electrocatalysi | Francisco | Gonell | Instituto de Tecnología Química (UPV-CSIC) |
| 1518 | Copper-modified nickel-based materials for ammonia electrooxidation | Justyna | Łuczak | Gdańsk University of Technology |

| Poster ID | Monday September 1 | Fine chemicals and polymer production | | P1, Pirsenteret |
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| 16 | N-Methylation of amines with methanol in the presence of carbonate salt catalyzed by a metal–ligand iridium bifunctional catalyst | ɜeixuan | Dong | Nanjing University of Science & Technology |
| 43 | Tandem Hydroformylation-Acetalization of Unactivated Olefins Using Pyrolyzed ZIF-67 Catalysts | Wejdan | Anbari | King Abdullah Univ.of Sci.and Technology |
| 159 | Synergy between Homogeneous and Heterogeneous Catalysis: A Novel Approach to Multifunctional Catalytic Systems | Manisha | Durai | Max Planck Institute |
| 170 | Ru-catalysis for controlled transfer hydrogenation of muconates | Lisa | De Vriendt | KU Leuven |
| 177 | Synthesis and physico-chemical characterizations of clay extrudate catalysts for application in citronellal cyclization to isopulegol isomers | Narendra | Kumar | Åbo Akaemi University |
| 206 | Design and catalytic assessment of lignin-derived tertiary amines towards sustainable urethanes | Thomas | Narmon | KU Leuven |
| 272 | Role of strong metal-support interaction in the selective hydrogenation of 4-Chloronitrobenzene | Hiromu | Akiyama | Waseda University |
| 293 | Lamellar MWW-structured zeolites as hybrid catalysts for enantioselective fine chemical processes | Jordi | Torró Abril | Instituto de Tecnología Química |
| 320 | Comparison of Liquid Thermal and Electrocatalysis for the Selective Oxidation of Ethylene Glycol over Cobalt Spinel Oxides | Catalina | Leiva Leroy | RUB |
| 353 | Shaping binder-free catalyst monoliths via crystal-glass phase transformation of coordination polymer for facile catalyst recovery | Thidarat | Imyen | Kasetsart University |
| 407 | Development of Beta zeolite-supported metal catalyst for selective hydrogenation of 5-hydroxymethylfurfural to fuel additives | Apinya | Wijitrat | Institute of Science Tokyo |
| 413 | Mechanistic Elucidation of the Nitrilation Reaction as Catalyzed by Titanium Dioxide | Matthew | Hickson | Ku Leuven |
| 432 | Propane-to-Propene Dehydrogenation with CO2 over Zn(Y)BEA Zeolite Catalysts | Oksana | Zikrata | National Academy of Sciences of Ukraine |
| 548 | Sustainable FeCl3-Catalyzed Photochemical Transamidation of Nitroarenes with Sacrificial C–H Bonds | Minwoo | Park | Chonnam National University |
| 613 | Homogeneously Catalyzed Insertion of Carbon Monoxide into N-Alkyl Bonds in Tertiary Amines | Mats | Engelke | RWTH Aachen |
| 691 | Computationally guided development of homogeneous nickel catalysts | Matej | Huš | National Institute of Chemistry of Slovenia |
| 781 | Highly active atomically dispersed Ru-hydride in zeolites catalysis | Michiel | Dusselier | KU Leuven |
| 842 | Cu-based catalysts for cyclohexane oxidation: studying the effect of cyclic reduction/oxidation treatments for activity enhancement. | Marta | Stucchi | University of Milan |
| 863 | Asymmetric Hydroformylation of Vinyl Ethers as Key Step in the Synthesis of Industrially Relevant Bioactive Compounds | Christopher | Weike | RWTH Aachen |
| 897 | Tandem Reductive Amination and Deuteration over a Phosphorus-modified Iron Center | Haifeng | Qi | Cardiff University |
| 1008 | Nickel Nanoparticles Supported on Covalent Triazine Frameworks as Highly Efficient Catalysts for Nitroarenes Reduction to Anilines | Emanuela | Pitzalis | National Research Council of Italy |
| 1049 | Unravelling transport, adsorption and dynamics over catalyst surfaces using advanced nuclear magnetic resonance methods | Carmine | D'Agostino | University of Manchester |
| 1097 | Support-mediated formation of Pd nanoclusters for the arylation of styrenes using iodonium salts | Davi | Leite | University of Campinas |
| 1110 | Exploring Zeolite Crystal Size Effects in Palladium-Encapsulated Catalysts for the Selective Hydrogenation Reaction of Phenylacetylene | Francisco Javier | Escobar Bedia | Instituto de Tecnologia Química UPV-CSIC |
| 1121 | Palladium single-atom catalysts in C-C and C-N cross-coupling reactions: Elucidating mechanistic and kinetic aspects of Pd1@C3N4 | Marc-Eduard | Usteri | ETH Zürich |

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| 1251 | Cis-selective Semi-hydrogenation of Internal Alkynes and Head-to-tail Dimerization of Terminal Alkynes Catalysed by Cationic Titanocenes | Martin | Lamač | Czech Academy of Sciences |
| 1255 | From Corrole to Porphyrin: Advancing Cobalt Catalysts for Sustainable Nitroarene Hydrogenation | Anna-Lena | Krabichler-Mark | Technical University of Leoben |
| 1273 | Silanols on the surface of mesopores in hierarchical Na-LTA zeolite enable the introduction of extra catalytic sites for the Knoevenagel condensation reaction | Iago | Zapelini | São Paulo State University |
| 1318 | In-situ FTIR study on Biphephos-modified rhodium catalyst degradation and reactivation under hydroformylation conditions | Chunhong | Wei | Leibniz Institute for Catalysis e.V. |
| 1345 | Palladium/zeolite nanoclusters selectively catalyse hydrogenation of alkynes to alkenes | Jan | Přech | Charles University |
| 1410 | Electrochemical reduction of 5-hydroxymethilfurfural to 2,5-bis(hydroxymethil)furan with Cu-electrodeposited foam electrodes and 3D printed Cu monoliths | Giovanni | Malagoli | University of Bologna |
| 1455 | Iron Single-Atom Catalysis: A Sustainable Route to DFF from HMF on Nitrogen-Doped Graphene Acid | Jacky | Advani | VSB-Technical University of Ostrava |
| 1470 | Optimized Platinum Nanoparticle Dispersion on 2D Supports for Enhanced Selective Hydrogenation of Cinnamaldehyde | Martin | Veselý | University Of Chemistry And Technology Prague |
| 1517 | Tailoring Catalyst for Selective Guar Gum Conversion: Unveiling the Interplay between Structure and Surface Functionalities in Galactose and Mannose Production | Ripsa | Nayak | Indian Institute of Science |

| Poster ID | Monday September 1 Special session 5: Frontiers in Enzyme Catalysis | | | P1, Pirsenteret |
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| 521 | Directed Evolution of a Natural Fatty Acid Photodecarboxylase for New-To-Nature C-C Bond Formations | Florian | Weissen-steiner | University of Graz |
| 639 | Immobilization of LPMOs on functionalized carbon nanotubes: the effect of spacer length on enzyme stability and activity | Silvia | Bordiga | Turin University |
| 745 | Hydrogenation of N-Benzyl Nicotinamide on Pt/SiO2 | Makoto | Hirano | Osaka Metropolitan University |
| 872 | Covalent enzyme immobilization on magnetite particles modified with lemon peel extracts | Sanja | Panić | University of Novi Sad |
| 875 | Horseradish peroxidase immobilized on biofunctionalized magnetite particles as potential biocatalyst for water treatment | Mirjana | Petronijević | University of Novi Sad |
| 1192 | Natural photoredox catalysts promote light-driven LPMO activity and enzymatic turnover of biomass | Eirik G. | Kommedal | NMBU |
| 1194 | Investigating the impact of cyanide and buffer ions on LPMO catalysis reveals functional variation and pitfalls of functional characterization | Eirik G. | Kommedal | NMBU |
| 1384 | Discovery and rational design of hydrolases for polyurethane degradation | Artur | Góra | Silesian University of Technology |
| 1460 | Construction and characterization of bifunctional fibrolytic enzymes | Je-Ruei | Liu | National Taiwan University |

| Poster ID | Monday September 1 $CO_2$ activation and upgrading | | | P2, Pirsenteret |
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| 113 | Self-catalytic Reactor for CO2 Methanation Fabricated by Metal 3D Printing and Surface Functionalization | Kohsuke | Mori | Osaka University |
| 114 | Structure-property evolution of Metal-Organic Frameworks (MOFs)-derived catalysts | Bibesh | Gauli | Monash University |
| 117 | Regulating photocarrier relaxation pathway in two-dimensional photocatalyst for efficient CO2 reduction | Heng | Cao | University of Science and Technology of China |

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| 123 | Unraveling the synergistic effects of vanadium in Ru-supported silica catalysts for CO2 methanation | Plaifa | Hongmanorom | UCLouvain |
| 132 | Oxidative Fluorination of Cu/ZnO Methanol Catalysts with NF3 as Fluorinating Agent | Henrik | Schuster | University Freiburg |
| 138 | Solid Molecular Catalysts based on Nanoporous Polyphosphine Macroligands for CO2 Hydrogenation | Malte | Schummer | TU Darmstadt |
| 142 | Catalytic activity and stability of NiPt/C catalysts for the synthesis of iso-butanol from methanol/ethanol mixtures | Joachim | Pasel | Forschungszentrum Jülich GmbH |
| 149 | Advancing molybdenum carbide catalysts for sustainable syngas production in the reverse water-gas shift (RWGS) reaction | Nico | Fischer | University Of Cape Town |
| 155 | Synthesis and characterization of LDHs-derived catalysts for the photo-thermocatalytic CO2 conversion. | Luca | Calantropo | Università Degli Studi di Catania |
| 169 | Cu-based catalysts fabricated by magnetron sputtering for the electrochemical CO2 reduction | Mathias | Van Der Veer | University of Antwerpen |
| 171 | Copper's Cozy Blanket – Even Metals Need Comfort | Kalani | Ostermeijer | Delft University of Technology |
| 190 | First-principles screening and rationalization for CO2 adsorption and activation using low–cost transition metal and alloy catalysts | Athira | Parambil | IIT-Kharagpur |
| 195 | Unique h-BN supported catalysts to enhance CO production by three-way reforming for steelmaking industry | Jeffrey C. S. | Wu | National Taiwan University |
| 199 | Carbon-Coated Fibrous Silica Nanospheres for Enhanced Photothermal Catalysis | Enrique Vicente | Ramos Fernandez | King Abdullah Univ.of Sci.and Technology |
| 200 | MXene-silica derivatives for photothermo-catalytic valorisation of CO2 | Giusy | Dativo | University of Catania |
| 202 | Investigation of oxygen species dynamics, carbon deposition and removal on LaNi-Zn perovskite catalysts for methane dry reforming | Morgana | Rosset | Universidade de São Paulo |
| 251 | Ionic liquid-mediated CO2-selective electrode for CO2 electrolysis from less pure streams | Hesamod-din | Rabiee | University of Bern |
| 252 | Syngas production by hydrogenation of calcium carbonate with reverse water gas shift catalyst | Fuminori | Saijo | Seikei University |
| 265 | CO2 conversion via reverse water gas shift chemical looping using indium-based oxide | Takuma | Higo | Waseda University |
| 274 | Efficient search for acetic acid synthesis pathway based on the bond disconnection process on Rh surface and Rh/metal oxide interface | Kenshin | Chishima | Waseda University |
| 292 | Porphyrin Co-Catalyst Enhancing Low-Temperature CO2 Hydrogenation at Water-CuAu/ZnO Interface | Hung | Mac | Leibniz Institute for Catalysis |
| 329 | CO2 carboxylation catalyzed by new C-scorpionate Cu(II) and Fe(III) complexes | Luísa | Martins | Universidade de Lisboa |
| 334 | Metal-free N, P Co-doped Carbon for CO2 Electroreduction into Syngas | Ryuji | Takada | Osaka University |
| 362 | CO2 Reduction Effect from Lowering Methanol Synthesis Temperature | Koichi | Matsushita | ENEOS Corporation |
| 378 | Direct CO2 capture from air and subsequent conversion to CH4 using bi-functional materials | Antonio | Guerrero Ruiz | UNED |
| 571 | Mechanochemical development of high surface area Boron Nitride materials for CO2 retention at moderate temperatures | Antonio | Guerrero Ruiz | UNED |
| 400 | Synthesis of Transition Metal Substituted Ceria Pre-Catalysts for Plasma-Assisted Heterogeneous Catalysis | Tim | Graupner | Christian-Albrechts-Universität zu Kiel |
| 410 | Synergistic coupling of Dry reforming of methane and Reverse water-gas shift reaction: Effect of Ce/Al ratio | Hyun-Seog | Roh | Yonsei University |
| 412 | Property-performance correlations in Ni-CaO-CeO2 for integrated CO2 capture and utilization | Vladimir | Galvita | UGent |
| 427 | Controlled Morphology of Magnesium Oxide for Efficient CO2 Adsorption | Woosung | Leem | Chonnam National University |

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| 428 | Impact of Activation Sequence on Selective Oxygenate Formation from CO2 and CH4 Sequential Reaction | Hyogeun | Yang | Chonnam National University |
| 430 | Innovative CO2-Negative Hydrocarbon Coupling Utilizing Metal Oxides | Hanbit | Jang | Chonnam National University |
| 431 | Catalytic CO2 Upcycling to Aviation Fuels using Pt-Loaded Mesoporous Zeolites with Tailored Acidity | Hyeonji | Yeom | Chonnam National University |
| 449 | Exploring the design space offered by Solid Micellar Catalysts: a novel platform for single-site catalysts | Sara | Santos | Ghent University |
| 458 | Deactivation of Cu/ZnO/Al2O3 catalysts in methanol synthesis from CO2/H2 and a way to counteract it | Dominic | Walter | TU Bergakademie Freiberg |
| 471 | TiS2 Nanoparticles as Model (Photo-)Catalysts for CO2 Activation | Niko | Kruse | Carl-von-Ossietzky Universität Oldenburg |
| 477 | Probing D-Band Centre for CO2 Reduction using Resonant Inelastic X-ray Scattering | Xiangchao | Meng | University College London |
| 488 | Kinetic study of alcohol assisted-methanol synthesis | Morteza | Saedi | Christian-Albrechts-Universität zu Kiel |
| 491 | Integrated CO2 Capture and Methanation via Zeolite-based Dual-Function Materials | Jan | Kopyscinski | McGill University |
| 518 | MgO sorbents doped by CaO and/or CeO2 for CO2 capture: synthesis and investigation of the chemical composition effect | Laura | Valentino | National Research Council Italy |
| 615 | Al-containing $SrFeO_3$ Perovskite Oxides: Structural Insights and $CO_2$ Electroreduction Performance | Laura | Valentino | National Research Council Italy |
| 523 | CO2 Conversion via Reverse Water Gas Shift Using Industrial Steel Wastes as Catalysts | Imad Eddine | Aouissi | University of Udine |
| 526 | Enhanced Catalytic Efficiency in $CO_2$ Hydrogenation and Ethanol Steam Reforming: The Role of Na-Promoted CoCu/$MgAl_2O_4$ catalyst | Larissa | Ferreira | Unicamp |
| 532 | Acid gas conversion to COS by Zeolite 13X: an elementary assessment | Raman | Ghassemi | Ghent University |
| 535 | Pd-Imidate@SBA-15: A Multifunctional Heterogeneous Catalyst for the Aqueous Room Temperature Hydrogenation of CO2 to Formic Acid | Nuria | Martín | Universitat Jaume I |
| 544 | Enhancing the reaction of CO2 and H2O using non-thermal plasma-catalysis | Piu | Chawdhury | University of Manchester |
| 564 | Hydrogenation of CO2 over bimetallic catalysts at atmospheric pressure | Ali | Goksu | University of Surrey |
| 565 | Deconvoluting the role of zeolite acidity and proximity in tandem CO2 conversion to olefins over ZnZrOx-AEI zeolite catalysts | Julien | Devos | KU Leuven |
| 576 | Thermogravimetric-differential scanning calorimetry study of Zn-based mixed oxides for light olefin production via CO2 hydrogenation | Gyungah | Park | Korea Research Institute of Chemical Technology |
| 577 | CO2 hydrogenation over Cu–Fe–Al mixed metal oxide | Shoma | Takahashi | Tokyo Metropolitan University |
| 581 | In-situ QXAFS study on CO2 adsorption behaviour on Ta–Nb mixed polyoxometalates | Nattamon | Panichakul | Tokyo Metropolitan University |
| 592 | Exploring the ternary interactions in Inverse Cu-ZnO-ZrO2 Catalyst for CO2 hydrogenation to Methanol: Mechanistic Insights from DFT | Akanksha | Goyal | IIT ROPAR |
| 610 | Carbon dots from waste for the photodegradation of CO2 | Giorgia | Ferraro | Ca' Foscari University of Venice |
| 619 | Low-content Ru catalysts for efficient atmospheric $CO_2$ methanation | Fabio | Salomone | Politecnico di Torino |
| 627 | Hierarchical zeolites for methanol and dimethyl ether dehydration into light olefins | Fabio | Salomone | Politecnico di Torino |
| 622 | Effect of pre-treatment conditions on Fe-based catalyst for e-fuel production via modified Fischer-Tropsch synthesis | Alessio | Tauro | Politecnico di Torino |
| 625 | Effect of zeolite acidity on pre-treated Fe-based catalysts for e-fuel production via CO2-modified Fischer-Tropsch Synthesis | Fabrizio | Celoria | Politecnico di Torino |

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| 630 | Vanadium doped Ni@Al2O3 core-shell like catalyst for Methanation | Michela | Signoretto | Università Ca' Foscari |
| 635 | Development and Evolution of Different Reactivation Pathways and Strategies for the Ruthenium Triphos Catalyst System | Lukas | Jage | RWTH Aachen University, ITMC |
| 644 | Exploring tailored Ru-triphos catalysts for hydrogenation reactions through the targeted adaptation of the coordination sphere | Angelina | Schreiber | RWTH Aachen |
| 645 | Synthesis of a structurally versatile hexapodal phosphine ligand | Sina | Modersitzki | RWTH Aachen University |
| 663 | Synergistic enhancement of photocatalytic CO2 reduction by plasmonic Au nanoparticles on TiO2 decorated N-graphene | Khaja Mohaideen | Kamal Musthafa | National Institute of Chemistry of Slovenia |
| 664 | NiRuCa DFMs performance in integrated CO2 capture and methanation under ideal and realistic conditions | Soudabeh | Bahrami Gharamaleki | University of Surrey |
| 683 | Towards Shape-Tunable Hierarchical Single-Crystal Catalysts for $CO_2$ Valorization | Maxime | Mathieu | UNamur |
| 703 | A Dynamic Rod-Shaped Low Molecular Weight Cu-Metallogel: A Precatalyst for Green Energy Efficient CO2 Epoxides Cycloaddition Under Mild Conditions | Mahesh | Samanta | Indian Institute of Technology Kharagpur |
| 704 | Isolation of Promotional Effects of Manganese (Mn) in Cobalt (Co)-Based CO2 Hydrogenation Catalysts | Cherie | Hsu | Karlsruhe Institute of Technology |
| 719 | Water Sorption by Zeolites in CO2 Methanation: Enabling Pure Methane Production | Enrico | Marchi | Åbo Akademi University |
| 733 | In-Situ Mass Analyzer for Activation of Fe-based Catalysts for CO2 Hydrogenation | Mei Ju | Goemans | Norwegian University of Science and Technology |
| 746 | Highly Efficient and Benign CO Production from $CO_2$ via RWGS in Imidazolium-Based Ionic Liquids | Perla Haidée | García-Ríos | Technical University of Denmark |
| 750 | Reactivity of the Pd/ZnO catalysts, the role of the interface in CO2 hydrogenation. | David | Willock | FUNCAT, Cardiff Catalysis Institute |
| 760 | Synthesis of UiO-66 with Mixed Linkers and Its Functionalization for CO2 Conversion into Cyclic Carbonates | Katia | Bernardo-Gusmao | UFRGS |
| 770 | Understanding CO2 Conversion to Methanol: Bridging Modelling and Practice | Anze | Prasnikar | National Institute of Chemistry of Slovenia |
| 773 | Perovskites as High Performance CO2 Conversion Catalysts | Christoph | Rameshan | Technical University of Leoben |
| 850 | Photocatalytic reduction of CO2 into value-added chemicals over metal modified g-C3N4 and h-BN | Luisa | Pastrana Martinez | University of Granada |
| 1114 | Structural and chemical evolution of Ga2O3-doped Co(OH)2 nanosheets in CO2 hydrogenation | Daviel | Gómez | Instituto de Tecnología Química |
| 1184 | Redox behavior of iron active sites in Al-rich *BEA zeolite in the recycling of CO2 and CH4 into platform chemicals | Agnieszka | Kornas | Czech Academy of Sciences |
| 1308 | Reactive CO2 capture using dual-function catalysts based on zeolitic structures and transition metals | Yuri | Lima | University of São Paulo |
| 1358 | Co, Fe, and Cu Catalysts for $CO_2$ Conversion to Low Carbon Products | Vitor Duarte | Lage | UFRJ/COPPE |
| 553 | Iron Substituted Hydroxyapatite Catalyst to Green Ethanol Conversion | Fabio | Souza Toniolo | Federal University of Rio de Janeiro |
| 1409 | Product Distribution Modeling in $CO_2$ Hydrogenation Reactors: A Novel Approach Combining Statistical Distributions | Fabio | Souza Toniolo | Federal University of Rio de Janeiro |

| Poster ID | Monday September 1 | Special session 3: Catalysts and reactors under dynamic conditions for energy storage and conversion | | P2, Pirsenteret |
|---|---|---|---|---|
| 286 | Insights into the structure and activity of Co-Re-S catalysts. | Daria | Ryaboshapka | IRCELYON |
| 290 | Titania coated reactor elements for selective partial oxidation of LOHC molecules | Nicolas | Johner | Forschungszentrum Jülich GmbH |

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| 302 | 3D characterization of alloyed fuel cell catalysts using STEM | Alessandro Claudio | Zanre | Oxford University |
| 309 | Next-Generation HT-FTS Catalysts: FeOx Nanoparticles Anchored in N-Doped Carbon Frameworks | Muhammad Asif | Nawaz | University of Seville, Spain. |
| 355 | In-situ/operando Infrared Spectroscopy based on FELiChEM Facility and the Applications in Energy Chemistry | Xiaodi | Zhu | University of Science and Technology of China |
| 373 | Using honeycomb monoliths as catalyst support for a scalable ammonia synthesis | Svea | Hoffgaard | University of Rostock |
| 403 | The influence of A-site cations on the in-situ formation of metallic nanoparticles in perovskite oxide catalysts | Florian | Schrenk | Technical University of Leoben |
| 419 | Mapping the configurational and stoichiometric space of ß-Ga2O3 for CO2 hydrogenation | Margareth | Baidun | TU Delft |
| 421 | Cu substituted Mg-Fe Layered Double Hydroxides as Precursors for Ammonia Decomposition Catalysts | Michael | Chumakovski | Kiel University |
| 498 | Activity and stability of zeolite-encapsulated Pt clusters for propane dehydrogenation: the effect of H2 co-feeding | Xiaomai | Chen | Technical University of Munich |
| 508 | Synthesis of M/CeO2(M = Pt, Ni) from a leachate solution containing recycled platinum, controlling shape and size of nucleation sites | Alessio | Varotto | Sapienza University of Rome |
| 557 | Separation of Ammonia from its Product Stream Utilizing an Efficient Membrane Separation Process. | Arend | Rösel | Rostock University |
| 600 | Novel BaTiO3-Based Electrode Materials for SOFC Optimization | Elise | Berrier | CNRS - UCCS - Lille |
| 695 | Design of bifunctional electrocatalysts for metal-air batteries based on iron-nickel aerogels | Judith | Gonzalez-Lavin | INCAR-CSIC |
| 748 | Operando XANES studies of supported thin film Pt catalysts during CO oxidation | Manuela | Arztmann | Helmholtz-Zentrum Berlin |
| 985 | Harnessing visible-NIR light for hydrogen evolution with $WO_{3-x}$ hybrid plasmonic catalyst | Dimple | . | Indian Institute of Technology Delhi |
| 986 | Investigating plasmonic properties of AuCu nanostructures immobilized on porous support for photocatalysis | Ajay | . | Indian Institute of Technology Delhi |
| 405 | Nickel-Silica Catalysts for $CO_2$ Methanation: Structure Performance Insights | Fabio | Bellot Noronha | National Institute of Technology Brazil |
| 1002 | Continuous fractionation, depolymerization and upgrading of coconut fiber waste under subcritical conditions and molten salts hydrate | Fabio | Bellot Noronha | National Institute of Technology Brazil |
| 1050 | Application of Operando Time-resolved XAS for Uncovering the Redox Dynamics of Metals Responsible for Catalytic Activity of Oxides and Metal-Oxide Interfaces | Olga | Safonova | Paul Scherrer Institute |
| 1072 | Cyclic adsorption-methanation optimization for Mechanical Mixture (MM) catalyst | Javier | Herguido | University Zaragoza |
| 1081 | In Situ Spectroscopic and Analytical Approaches for Monitoring Solid Formation and Designing Catalysts for Energy Applications | Monica | Distaso | Helmholtz Institute Erlangen-Nürnberg |
| 1117 | Tracking Dynamics of Supported Indium Oxide Catalysts in CO2 Hydrogenation to Methanol by In-Situ TEM | Yung-Tai | Chiang | ETH Zürich |
| 1127 | Surface Study of Structure Evolution and Deactivation of Gauze Catalysts for Nitric Acid Production | Yining | Ma | University College London |
| 1143 | The Nickle-Iron hydroxides for Oxygen Evolution Reaction Mechanisms Study. | Yezi | Lu | UCL |
| 1153 | Shining Light on Electrochemical studies at the SOLARIS synchrotron | Anna | Wach | Jagiellonian University |
| 1193 | Dynamic modeling the CO2 capture and methanation in a bench-scale reactor using perovskite-based dual function materials | Beñat | Pereda Ayo | University Of The Basque Country |

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| 1247 | Development of electrically conductive cobalt-based catalysts for ammonia decomposition in directly heated reactors | Franziska | Winter | Fraunhofer Institute UMSICHT |
| 1317 | OptimizingNi/MgAl2O4 Catalysts for Bi-Reforming: Synthesis, Characterization, and Performance Evaluation | Mohammad | Shakir | Curtin University |
| 1356 | Utilization of 3D printing in heterogeneous catalysis | Agustin | Bueno-lopez | University of Alicante |

| Poster ID | Monday September 1 Special session 4: From data to AI | | | P2, Pirsenteret |
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| 46 | Comprehensive catalyst screening for Prins reaction through combined use of domain knowledge and machine learning potential. | Tatsuya | Chiba | ENEOS Corporation |
| 212 | AI Alchemy: Revolutionizing Chemistry Through Prediction and Design | Izabela | Czekaj | Cracow University of Technology |
| 357 | Machine Learning Analysis of Literature on Catalytic CO2 Hydrogenation to Methanol | Beyza | Yılmaz | Boğaziçi University |
| 885 | Advantages in the use of AI-based regressions for the kinetic modelling of industrial catalysts | Emanuele | Moioli | Politecnico di Milano |
| 886 | A method to analyze catalyst deactivation in fluidized bed reactors | Emanuele | Moioli | Politecnico di Milano |
| 907 | Entering the New Era of Digital Catalysis | Sebastien | Paul | UCCS/Centrale LIlle/REALCAT |
| 1371 | e-CatNote: an ELN for heterogeneous catalysis based on ontology for laboratory operations | Daniel | Costa | Centro Química Estrutural, IST |
| 1380 | Integration of high-throughput synthesis, testing and characterization robots with a GFlowNet generative model for active learning predictive generation of supported metal nanoparticles | Egon | Heuson | Centrale Lille |

| Poster ID | Monday September 1 Bulk chemicals from fossil and renewable feedstock | | | Aurora, Clarion |
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| 8 | Iron-containing Zeolite Catalysts for the Oxidative Dehydrogenation of Bioethanol to Acetaldehyde | Valeria | Lang | TU Darmstadt |
| 25 | Diamine-Capped Metal Nanoparticles for Biomass-Derived Substrate Conversion | Werner | Oberhauser | National Research Council of Italy |
| 62 | Aerobic Oxidation of Ethanol in Water by Palladium Supported onto Nickel Foam: Magnetic Inductive versus Electrical Resistance Heating | Werner | Oberhauser | National Research Council of Italy |
| 124 | Design of novel phosphine-based SMCs for the telomerization of isoprene and their structural evaluation by XAS studies | Julia | Nikodemus | RWTH Aachen University |
| 137 | Carbon-Supported Heteropoly Acids: A Catalytic Approach to Diformylxylose | Leon | Rothe | University Siegen |
| 140 | Biomass hydroconversion with bifunctional heteropolyacid catalysts | Fulvio | Varamo | Universität Siegen |
| 145 | Kinetic descriptors of propene oligomerization over micro- and mesoporous acid catalysts in light of deactivation by coke formation | Moritz | Link | Technical University of Denmark |
| 158 | High-Valent Early Transition Metal Chlorides for the Catalytic Gas-Phase Cyclotrimerization of Acetylene to Benzene | Jonathan Moritz | Mauß | Max Planck Institute |
| 162 | Aromatization of Ethanol on Zeolite-Based Catalysts with Controlled Acid Site Locations | Shun | Fukasawa | Idemitsu Kosan Co., Ltd |
| 166 | Interparticle Distance controls catalytic performance in the Direct Synthesis of H2O2 over Au@Pd Model Catalysts | Heiko | Schiefer | Karlsruhe Institute of Technology |
| 192 | Synergistic Role of Iron Oxide in Promoting the Catalytic Activity of Chromium Oxide for Propane Dehydrogenation | Sunil Kumar | Sahoo | Indian Institute of Technology |
| 210 | Non-oxidative direct conversion of methane to ethylene: optimizing the surface reactions | Yong Tae | Kim | Korea Research Institute of Chemical Technology |

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| 240 | On the Relevance of Surface Hydroxyl Groups in Carbon Catalysts for the Electrocatalytic Production of $H_2O_2$ | Harry | Bitter | Wageningen University |
| 264 | Catalyst testing for Renewable Diesel / SAF Production from renewable feedstocks | Martin | Kraus | hte GmbH |
| 301 | TaOx encapsulated clusters in zeolites for conversion of oxygenated coumpounds | Raphaël | Del Cerro | IFP Energies Nouvelles |
| 313 | Ligand Design for Aerobic Pd-Catalyzed Styrene Production via the One-Step C-H/C-H Coupling of Benzene and Ethylene | Frederick | Martens | KU Leuven |
| 314 | Esterification of Valeric Acid and Glycerol via Acidic Zeolites | Rawipa | Intakul | Chalmers University of Technology |
| 349 | Precision Control of Bimetallic CuZn Catalysts via Galvanic Replacement for Enhanced Performance in Ethanol-to-Butadiene | Peeranat | Chaipornchalerm | Vidyasirimedhi Institute of Science and Technology |
| 350 | Enhancing the catalytic hydrogenation of furfural to furfural alcohol over Ni-loaded MIL-53: Effect of calcination and reduction temperature on catalyst structure and activity | Rediat | Terefe Andualem | Indian institute of technology roorkee |
| 352 | Plastic waste-to-olefins using a two-stage reactor concept with catalytic upgrading | Jonas | Vogt | Karlsruhe Institute of Technology |
| 356 | Keggin polyoxometalates: novel versatile deoxydehydration catalysts | Eric | Gaigneaux | Université Catholique de Louvain |
| 380 | Promotional Effects of Si on Alumina-based Pt-Ga Catalyst for the Propane Dehydrogenation Reaction | Kazutaka | Sakamoto | ETH Zurich |
| 442 | Photocatalytic Oxidation of Ethylamine to Acetonitrile with Hydrous Ruthenium Oxide Supported on TiO2 | Aliihsan | Bagci | Technical University of Denmark |
| 453 | Phosphide and Sulfide-based Catalysts for Hydrodeoxygenation Reactions of Biomass-derived Components to Value-added Chemicals | Ankit | Kumar | Karlsruhe Institute of Technology |
| 463 | Glycerol dehydration to acrolein on WO3/TiO2: catalyst and process optimization | Martina | Battisti | RWTH Aachen University |
| 470 | Catalytic oxidation of 5-Hydroxymethylfurfural to 2,5-Diformylfuran using MOF-808(Cu) under mild conditions | Fabio | Raspante | University of Liverpool |
| 495 | Acidity requirement and reaction pathway for the dehydration of 1,3 butanediol to butadiene over ZSM-22 | Loïc | Eloi | Ghent University |
| 507 | Decorated Pt1-phosphomolybdate on In2O3 for Photocatalytic Methane Hydroxylation with Nearly Total Selectivity | Geqian | Fang | Université de Lille |
| 529 | Morphology-controlled TiO2 nanocatalyst for the continuous aqueous-phase production of lactic acid from trioses | Marco | Fraga | INT - Instituto Nacional de Tecnologia |
| 1301 | On the deactivation of Amberlyst-15 in the etherification reaction of glycerol with ethanol | Giuseppe | Bonura | CNR-ITAE |

| Poster ID | Monday September 1 Special session 6: Electrification of catalytic reactions and reactors | | | Aurora, Clarion |
|---|---|---|---|---|
| 116 | Spherical Polymer-Based Carbon as Fixed-Bed Electrodes for Electrosynthesis Flow Cells | Jan | Gläsel | FAU Erlangen- |
| 151 | Tuning the Catalysis of Inorganic Materials by Disentangling their Entangled Interfacial Chemistry | Murielle | Delley | University of Basel |
| 474 | Modelling and Analysis of Electrothermal Fluidized Bed Reactors: A Case Study on COS Decomposition via direct resistive heating | Klaus | Jacobs | University of Ghent |
| 487 | Temperature gradients during microwave-assisted biogas reforming | Yves | Schuurman | Cnrs |
| 490 | eREACT: Electrified reforming at scale in synthesis gas manufacturing | Leon R.S. | Rosseau | Topsoe A/S |
| 558 | Development of electrified reformer for low-carbon syngas production - Catalyst coating | Jason | Sun | CSIRO |
| 665 | Upscaling a method for electro-reformer catalyst production | Christian | Hulteberg | Lund University |

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| 712 | Development of Catalyst Bed Concepts for Induction Heating for Emission Control | Asad | Asadli | Karlsruhe Institute of Technology |
| 796 | Low-Temperature Electrodeless Reactions in a Microwave reactor | Elena | Vicente | Instituto de Tecnología Química |
| 1064 | Intensification of Endothermic Catalytic Processes with a Novel Electrified Reactor based on Radial Current and Flow | Luca | Cozzarolo | Politecnico di Milano |
| 1130 | Induction Heated 3D Printed Structured Reactors for Syngas Production. | Mohammad Raihan | Arfin | Monash University |
| 1234 | Electrified reactor design for sustainable methane reforming: Converting greenhouse gases into syngas | Ashwin Kishor | Hatwar | Monash University |
| 1452 | Microkinetic Model of Electrochemical Urea Synthesis via Carbon Dioxide and Nitrate co-Reduction | Luis F. | Leon-Fernandez | University of Antwerp |
| 1490 | Electrified Catalysts: Cu-Ni-W Alloy on Graphite-Coated Alumina Foam for Sustainable Energy Applications | Pietro | Colucci | Enea |

| Poster ID | Monday September 1 Advancements in catalysis | | | Aurora, Clarion |
|---|---|---|---|---|
| 31 | Investigations of vanadium doped Co3O4(111)/Au(111) and mixed VxCo3-xO4(111) ultrathin films | Jan | Smyczek | Kiel University |
| 37 | Heterogeneous Catalysts for Hydrogen Loading and Release of the LOHC System Benzyltoluene/Perhydro Benzyltoluene | Barbara | Bong | Forschungszentrum Jülich GmbH - |
| 61 | Investigation of hybrid ternary low-Pt electrocatalysts for oxygen reduction reaction: influence of ceria-based additives | Aldona | Kostuch | University of Warsaw |
| 75 | The Rise of Single Atom Catalysts: Synthesis and Catalytic Applications | Manoj Bhanudas | Gawande | Inst. of Chemical Technology Mumbai |
| 84 | Good practices for pulse chemisorption | Benjamin | Le Monnier | Anton Paar |
| 90 | In situ quantitative single-molecule study of site-specific photocatalytic activity and dynamics on ultrathin g-C3N4 nanosheets | Zhengyang | Zhang | Nanyang Technological University |
| 108 | MANTRA – Data on innovative materials for sustainability and transfer | Lilla | Nikl | DECHEMA e.V. |
| 118 | The magic of small metallic impurities: Less than 7 ppm of lead or bismuth drive the electrochemical reductive amination of acetone | Justus | Kümper | RWTH Aachen University |
| 129 | Secondary Coordination Effects on Ruthenium-Based Molecular Water Oxidation Catalysts | Sreeja | Dasgupta | Indian Institute of Technology Kharagpur |
| 176 | Redispersion of supported RuO2 by reduction with organic compounds | Nuno | Batalha | IRCELYON / CNRS |
| 185 | Hydrogen Spillover on a Non-reducible Metal Oxide Composed of Earth-abundant Elements and its Catalysis | Kazuki | Shun | Osaka University |
| 186 | Computational Insights into Complex Catalytic Processes | Miroslav | Rubes | Czech Academy of Sciences |
| 189 | Effect of Crystal Morphology on Photo-induced Peroxide Formation over Cubic Sm2O3 | Weizheng | Weng | Xiamen University |
| 273 | On-site reduction of Au3+ ions and enhanced confinement effect of Au particles using novel porous support with abundant hydrosilyl groups | Takumi | Masuda | Waseda University |
| 282/ 1582 | An Electrochemical Method for Predicting and Optimising Cooperative Redox Enhancement in Bimetallic Thermocatalysis | James | Spragg | Cardiff University |
| 288 | Accurate high-coverage surface modeling with annealing technology | Hiroshi | Sampei | Waseda University |
| 336 | Electric Field-Controlled CO2 Capture on Doped-CeO2 | Koki | Saegusa | Waseda Univ. |
| 344 | Advantages of microreactor technology for the investigation of kinetic parameters of catalyzed reactions | Pascal | Desel | University of Applied Sciences Niederrhein |
| 359 | Combined impact of pH, catalyst, and strongly non-ideal solvent mixtures (SNISMs) towards boosting acid-catalysed reactions | Lasse | Prawitt | Universität Hamburg |

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| 436 | Nanofiltration for Cataylst Separation and Downstream Processing | Udo | Kragl | University of Rostock |
| 440 | Magnetometry for operando characterisation of catalysts | Michael | Claeys | University of Cape Town |
| 445 | Synthesis and Catalytic evaluation of Silica Supported Pt nanoparticles for Transfer Hydrogenation from perhydro-dibenzyltoluene to acetone | Smitkriti | . | CP2M |
| 476 | A New Ball Milling Synthesis towards Covalent Triazine Frameworks | Leonie Sophie | Häser | RWTH Aachen University |
| 493 | Visualization of Hydrogenated N2 on LaN-based Catalysts for $NH_3$ Synthesis | Guanghan | Zhu | University College London |
| 502 | Post-Synthetic Modification of ZIF-8: A Strategy for Gold-Selective Adsorption and Catalysis | Javier | Narciso | University of Alicante |
| 522 | Resolving the Nanostructure of Carbon Nitride-Based Single Atom Catalysts | Nicolò | Allasia | Politecnico di Milano |
| 527 | Direct oxidation of cyclohexane to adipic acid on Fe-Co based catalysts | Erisa | Fero | Università degli Studi di Milano |
| 528 | Rational design of novel catalysts for DME synthesis | Narmin | Jabbarli | Università degli Studi di Milano |
| 538 | Electrochemical potential of boron-doped black glasses | Klaudia | Łyszczarz | University of Krakow |
| 563 | Stabilizing Hydrolytically Labile Germanosilicate Zeolite UWY for Catalytic Applications | Emad | Shamma | Charles University |
| 586 | In-situ QXAFS study on H2 and CO adsorption on Pt in solid [PtAu8(PPh3)8]-H[PMo12O40] | Taishi | Suzuki | Tokyo Metropolitan University |
| 620 | Opportunities for catalysis research through the application of semiconductor manufacturing techniques | Lukas | Thum | Helmholtz-Zentrum Berlin für Materialien und Energie |
| 638 | High Throughput meets Chlorine Chemistry | Christoph | Hauber | hte Gmbh |
| 661 | Enzymatic Synthesis of Medium- and Macrolactones | Corinna | Kawaus | University of Graz |
| 669 | Second-Generation Dendritic ZSM-5 Zeolites: Efficient and Versatile Catalysts for Green Chemistry and Clean Energy Applications | María del Mar | Alonso-Doncel | IMDEA Energy Institute |
| 676 | What is hidden between amide-type solvents and acyl chlorides? Let's unveil it by NMR | Paolo | Freisa | University of Turin |
| 696 | Pre-Treatments for Enhanced 2-Propanol Decomposition on Co3O4 | Hauke | Scheele | Kiel University |
| 700 | Synthesis of Cu2O decorated ZnCr layered double hydroxide for enhanced photocatalytic degradation of methyl orange dye and 4-nitrotoluene under visible light | Sukanya | Guha Roy | IIT Kharagpur |
| 713 | Theoretical investigation of the reactivity of Lewis acid sites in zeolites for MTO reactions | Annika E. | Enss | Karlsruhe Institute of Technology |
| 717 | Air Purification: Photocatalytic Filters for Pollutant Degradation | Isabel Maria | Oliveira | INL |
| 729 | Tuning Electronic Environment of a MOF Derived CoN4@C for ORR | David | Villalgordo Hernández | University of Alicante |
| 732 | Generating CoN4 Sites in a ZIF-Derived Carbon for Efficient Nitroarene Hydrogenation Reaction | David | Villalgordo Hernández | University of Alicante |
| 731 | Controlling the Mechanism of Nucleation and Growth Enables Synthesis of UiO-66 Metal–Organic Framework with Desired Macroscopic Properties | Vitaly | Sushkevich | Paul Scherrer Institute |
| 822 | Monooxygenase mimicry for C–H oxidation: success and challenges of pMMO-inspired Cu catalysts in mechanism, activity, and stability | Mouham-chairmad | Abu Rasheed | University of Oslo |
| 830 | Porous capsules with liquid core prepared by Pickering emulsion: Understanding of diffusional phenomena for catalyst implementation. | Rémi | Duclos | IFPEN |
| 845 | A novel approach to the production of periodic open cellular structures (POCS) by additive manufacturing for catalytic applications | Riccardo | Balzarotti | SUPSI |
| 859 | Rh-Based Pre-Reformer Catalyst: An efficient and Adaptable Solution for SOFC Systems | Pragati | Joshi | Heraeus |

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| 864 | Structure-Activity Relationship of Transition Metal Carbide Catalyst for Hydrodeoxygenation Reaction | Guanna | Li | Wageningen University |
| 867 | Catalytic performance of bare La2O3 in non-oxidative propane dehydrogenation: Active sites and effect of hydrogen co-feeding | Tatiana | Otrosh-chenko | Leibniz-Institut für Katalyse e. V. |
| 878 | Electrochemical-Assisted Synthesis of Monometallic Cu+ Active Species Incorporated in Hierarchical Silicalite-1 for Ethanol Dehydrogenation | Wachira | Jeevapong | Mr |
| 935 | Parameter testing of Pt/C and PtNi/C batch synthesis for the transfer to a continuous production | Marcel | Müller | Fraunhofer Institute for Chemical Technology ICT |
| 946 | ACTIVATED BORANE – NOVEL HETEREGENEOUS LEWIS ACID CATALYST | Jan | Demel | Czech Academy of Sciences |
| 947 | Kinetic modeling and continuous catalytic hydrogenation of acetophenone in a jet loop reactor | Pelin | Caglayan | Technical University of Denmark |
| 983 | Metal Phosphide Nanoparticles: From Synthesis to Catalysis | Hooman | Ghazi Zahedi | Max Planck Institute |
| 989 | Soft X-ray Operando Spectroscopy Platform at MAX IV Laboratory | Alexander | Klyushin | Max IV Laboratory |
| 998 | Frustrated Lewis pairs: A DFT perspective on degrees of frustration | Ole | Swang | SINTEF |
| 1018 | Organocatalytic Regioselective Hydroboration of Alkynoate Esters | Paweł | Huninik | Adam Mickiewicz University |
| 1023 | Enhancing Z-scheme {001}/{110} junction in BiOCl with {110} surface oxygen vacancies for photocatalytic degradation of Rhodamine B and tetracycline | Theeranun | Siritanon | Suranaree University of Technology |
| 1104 | Supervised learning for activity prediction based on TPR curves of Fischer-Tropsch catalysts | Sylvie | Maury | IFP Energies Nouvelles |
| 1132 | Effect of Co introduction into MnOx nanocluster catalyst on oxidation reaction | Nobuyuki | Ichikuni | Chiba University |
| 1138 | Acid-catalyzed aldol condensation over hexagonally ordered mesoporous AlSBA-15 | Rexie | Selvarajan Rani | University of Newcastle, Australia |
| 1144 | Comparison of acidity characterization methods of zeolite catalysts | Ellen | Järvinen | Aalto University |
| 1148 | Hybrid Materials Based on Metal-Organic Frameworks and Graphene Oxide as Electrocatalysts for Oxygen Reduction and Hydrogen Oxidation in Alkaline Environment | Georgios | Bampos | University of Patras |
| 1174 | Design of Innovative Sustainable Porous Silica Materials as a Versatile Platform for High-Performance Adsorbents and Catalysts | Ivalina | Trendafilova | Bulgarian Academy of Sciences |
| 1176 | Advanced Temperature-Programmed Desorption: A New Method for Characterizing Nitrogen Dopants in Carbon and Oxide Catalysts | Takeharu | Yoshii | Tohoku University |
| 1187 | From Laboratory to Pilot Scale: Hydrogenation of Acetone to Isopropanol Using a Fixed Bed Raney-type Nickel Catalyst | Hedvika | Bayarri | RANIDO, s.r.o. |
| 1205 | Operando end-station for heterogeneous catalyst research at the Polish synchrotron Solaris | Michał | Śliwa | Jagiellonian University |
| 1228 | Development of high-performance ZSM-5 Catalyst for Gasoline Production from Methanol | Daniela | Mauci | RANIDO s.r.o. |
| 1244 | Investigating the Origins of Zeolite Fluorescence | Jun Xian | Yap | University College London |
| 1284 | Selective Oxidation of Liquid Organic Hydrogen Carrier An Investigation of different Catalysts | Fabian | Siegert | Forschungszentrum Juelich |
| 1298 | Morphological Degradation in Solvent-Free Synthesis of Mixed-phase Zeolite | Debkrish-na | Dey | IIT DELHI |
| 1319 | Empowering Catalysis Research Using Advanced Digital Tools | Preston | Rodrigues | University Of Stuttgart |
| 1320 | Spectroscopy enabled process automation of a continuous flow set-up with an additively manufactured reactor | Vera | Truttmann | Karlsruhe Institute of Technology |
| 1331 | Analysis of an understudied family of mono-copper LPMOs reveals unique substrate specificity and redox properties | Tom | Emrich-Mills | Norwegian University of Life Sciences |

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| 1349 | Synthesis and Catalytic Applications of Metal Oxocluster-based Hybrid Nanoparticles for Oxidation Reactions | Silvia | Gross | Karlsruhe Institute of Technology / University of Padova |
| 1478 | Influence of heating mode in the synthesis of heterogeneous bismuth molybdate-based catalysts | Silvia | Gross | Karlsruhe Institute of Technology / University of Padova |
| 1351 | Catalytic 2-propanol oxidation on CoFe2O4: a mechanistic surface study via ME-DRIFTS-PSD | Pierfrances co | Ticali | Christian-Albrechts-Universität zu Kiel |
| 1423 | The Effects of Bismuth Addition on the Structure and Catalytic Behavior of Supported Cobalt Catalysts in Propane Dehydrogenation | Almira | Çaldıklıoğlu | Middle East Technical University |
| 1443 | Catalytic Hydrogen Peroxide Decomposition Monitoring by Operando NMR Spectroscopy | Metin Alp | Yurtseven | Middle East Technical University |
| 1485 | Critical assessment of exsolution process in Cu-doped SrTiO3 by a combined spectroscopic approach. | Massimil-iano | D'Arienzo | University of Milano Bicocca |
| 1486 | Catalytic hydroboration of ketones using Mn(CO)5Br and Mn2(CO)10 | Aleksandra | Szymańska | Adam Mickiewicz University |
| 1516 | New routes for low valent Ti(III), Ti(II) and W(IV) synthesis using silylated organic reductants : Combined experimental and theoretical approach | Lionel | Magna | IFPEN |
| 1520 | An operando microreactor for combined X-ray Absorption and vibrational spectroscopy – Oxygen storage capacity measurements as an insight into the WGS / RWGS mechanism. | Ruby | Morris | University of Glasgow |
| 1530 | Spin-accelerated oxygen electrocatalysis triggered by Internal fields | Yanglong | Hou | Sun Yat-sen University |
| 1531 | Electron Paramagnetic Resonance Spectroscopy in Catalysis: Setup for In Situ Studies and Characterization of Catalysts | Friedrich | Stemmler | University Of Stuttgart |
| 1532 | Mechanistic EPR investigations on a cooperative Cu(II) catalyst for asymmetric 1,4-Addition reactions | Alexander | Allgaier | University of Stuttgart |
| 1533 | Effect of temperature on g-C3N4 photocatalytic activity and NMR surface relaxation | Jiaye | Shao | University of Manchester |
| 1539 | Development of Cu-Zn-Al LDH Catalyst for the One-Step Water-Gas Shift Reaction: Structure and Activity Validation from Laboratory to Industrial Batches | Tsvetomila | Parvanova-Mancheva | Bulgarian Academy of Sciences |
| 1541 | Evaluating the catalytic activity of Pd embedded in UiO-66 and UiO-67 for cross-coupling reactions | Naiara | Zapirain | Universitetet i Oslo |
| 1543 | Single-Atom Platinum Catalysts Drive Regioselective and Chemoselective Functionalization of Sterically Hindered Substrates | priti | sharma | Jerzy Haber Institute of Catalysis and Surface Chemistry |
| 1544 | Carbon vacancy modified g-C3N4 hollow tubes-iron oxide composite for photocatalytic application | Jeyalakshmi | Velu | University of Chemistry and Technology Prague |
| 1546 | Ruthenium (II) Complexes Containing an N, N-donor Ligands as Active Catalysts for the N-alkylation of Amides with Primary Alcohols via the Borrowing Hydrogen Method | Tapas | Mahata | Indian Institute of Technology Kharagpur |
| 1553 | Engineering inverse cobalt catalysts for efficient ammonia synthesis | Weronika | Bulejak | Warsaw University of Technology |
| 1555 | Transformation of Bio-based C2 Molecules into Specialty Chemicals | Jianxia | Zheng | E2p2l |
| 1557 | Catalytic Advanced Radiator for Emission reduction: the AirCARE project at Politecnico di Torino | Enrico | Sartoretti | Politecnico di Torino |
| 1581 | Unraveling the silver-catalyzed methanol to formaldehyde reaction | Tina | Bergh | Norwegian University of Science and Technology |
| 1583 | A DoE screening of perovskites for chemical looping ammonia oxidation | Marcin Krzysztof | Makosa-Szczygiel | NTNU |

## Tuesday September 2, 17:30 – 19:30

| Poster ID | Tuesday September 2 | Bulk chemicals from fossil and renewable feedstock | | P1, Pirsenteret |
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| 35 | Phosphotungstic Acid Catalyzed Hydrolysis and Retro-aldolization of Xylan to Xylose or Lactic Acid – Investigation of Solvent Effects | Katharina | Beine | Univeristy of Siegen |
| 53 | How Local Occupancy in Zeolite Pores Governs the Activity, Selectivity and Stability of Methanol-to-Hydrocarbons (MTH) Catalysts | Nikolay | Kosinov | Eindhoven University of Technology |
| 107 | Steam Reforming of Ethanol over Al-doped ZnO | Astrid Sophie | Müller | Ruhr University Bochum |
| 537 | Investigating the stability of heterogenous catalyst in the continuous dehydration of aqueous formic acid | Emanuel | Hoffmann | Institute Of Chemical Reaction Engineering Fau Erlangen |
| 539 | Ethylene-to-Butadiene: Novel Palladium-based catalyst shifting away from Wacker oxidation | Harry | Poels-Ryckeboer | KU Leuven |
| 549 | Partially substituted H3PW12O40 with NH4+ as a catalyst for the gas phase methanolation of toluene into xylenes | Eric | Gaigneaux | Université Catholique de Louvain |
| 560 | Supported Keggin heteropolyanions as deoxydehydration catalysts | Eric | Gaigneaux | Université Catholique de Louvain |
| 593 | Au/CePO4 for selective glucose oxidation with H2O2: the effect of preparation method on catalyst activity | Joanna | Wisniewska | Adam Mickiewicz University |
| 599 | Amination of Bio-based Platform Chemicals with Ru- and Co-based Catalysts | Phillip | Palenicek | TU Darmstadt |
| 601 | Sustainable Synthesis of Glycerol Carbonate Using Agro-Waste-Derived Catalysts | Kandis | Sudsakorn | Kasetsart University |
| 623 | Selective Hydrogenolysis of Glucose with Supported Bifunctional Catalysts | Aileen | Hübner | TU Darmstadt |
| 633 | Influence of Reaction Parameters on the Activity of Supported Iron Nanoparticles for the selective Acetylene Hydrogenation | Hannah | Lamers | TU Darmstadt |
| 677 | Valorization of Bio-Derived Levulinic Acid via Hydrogenation to γ-Valerolactone using Recovered Noble Metals | Stefany | Chamorro | Université de Lille |
| 690 | Kinetic and Mechanistic Insights into the Oxidative Dehydrogenation of Ethanol on Various Iron-Molybdenum Oxide Catalysts | Danny | Stark | TU Darmstadt |
| 694 | Advanced aromatic platforms from lignocellulose for high-value materials production. | Sanja | Vucetic | Åbo Akademi University |
| 718 | Unsupported molybdenum carbides enabling high yields of alkylphenols in depolymerisation of lignin | Sari | Rautiainen | VTT Technical Research Centre of Finland Ltd |
| 1257 | Tandem upgrading of lignocellulosic pyrolysis bio-oils via a sequence of CSTR-fixed bed hydroprocessing: catalyst and process development | Sari | Rautiainen | VTT Technical Research Centre of Finland Ltd |
| 747 | Elucidating the dynamic behaviour of open metal sites in Fe-MOFs | Leonardo | Spuri | UPV/EHU, UniTo |
| 775 | Scalable Production of High-Surface-Area Alpha Alumina as an Efficient Catalyst | Özgül | Agbaba | Max Planck Institute |
| 803 | Base-free liquid Phase Oxidation of 5-Hydroxy- and 5-Methoxymethylfurfural over Porous Polymer derived Ruthenium Catalysts | Niklas | Kruse | TU Darmstadt |
| 814 | Using qNMR as a method of analysis for products of liquid-phase catalysis | Rafael | Cortez Sgroi Pupo | University of Oslo |
| 870 | Catalytic Production of succinic acid: Integrating furfural oxidation and biomass fractionation using gamma-valerolactone (GVL) | Maria Jesus | Soto Alvarez | Instituto de Catálisis y Petroleoquímica |
| 893 | Sepiolite clays: new and abundant catalysts for isopropanol dehydration to propylene | Tien Hoang | Nguyen | IRCELYON |
| 952 | Sn-Silica catalyzes lactose to lactic acid in a fluidized bed reactor | Paula Andrea | Rivera Quintero | Polytechnique Montréal |

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| 1006 | Boosting Biomass Valorization: High-Yield 1,5-Pentanediol Synthesis via Oxygen-Engineered Metal Oxides | Asier | Barredo | University of The Basque Country |
| 1013 | Environmentally benign HMF over NbOPO4 supported TiO2 | Jyri-Pekka | Mikkola | Umeå University & Åbo Akademi University |
| 1045 | Cu/SiO2 – the importance of synthesis procedure on the formation of Cu active species | Jaroslav | Aubrecht | University of Chemistry and Technology Prague |
| 1122 | Novel Routes to Low Temperature Ammonia Synthesis: Metal Hydrides | Selin | Ernam | Technical University of Denmark |
| 1198 | Catalytic hydropyrolysis of low-density polyethylene in fluidized bed with sand, zeolite and hydrocracking catalysts | Jie | Jian | Technical University of Denmark |
| 1293 | Zirconia-Based Catalysts in Waste Valorisation Applications | Dave | Scapens | Luxfer MEL Technologies |
| 1314 | Recovery of valuable bio-molecules and production of bio-fuels from the valorization of wet agroindustrial wastes | Chiara | Corrente | CNR-ITAE |
| 1364 | Glycerol conversion to BTX aromatics over pristine and Zn-modified H-ZSM-5 catalysts | Jorge A. | Velasco | Aalto University |
| 1440 | Machine learning analysis of crotonaldehyde hydrogenation in liquid phase using ReOx catalysts and formic acid as hydrogen donor | Manuel | Romero-Sáez | Instituto Tecnologico Metropolitano |
| 1497 | Catalytic Consequences of Reaction Microenvironment for C-O Scission Reactions and their Thermodynamic Origin | Ya-Huei (Cathy) | Chin | University of Toronto |
| 1507 | Enhancing ZSM-5 zeolites selectivity to olefins and aromatics on methanol to hydrocarbons reaction | Iago | Zapelini | São Paulo State University |

| Poster ID | Tuesday September 2 Gaseous emissions treatment (NOx, CO, CH4, VOC, soot..) | | | P1, Pirsenteret |
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| 40 | Modelling the combined HCHO/SCR reaction on V2O5/WO3/TiO2 catalyst in lean gas engine exhaust | Sven | Kureti | Tu Freiberg |
| 120 | Accelerating Design High-Efficiency Nitrogen Oxide Electroreduction Catalysts of Transition-Metal Doped phthalocyanine: A DFT and Machine Learning Study | Lixin | Ye | Nanjing University of Science and Technology |
| 181 | Sulfur tolerance of Pd-Ceria catalysts for CH4 oxidation through Pr-doping | Samir | Bensaid | Politecnico di Torino |
| 184 | Stability Study of a Benzyl Amine Adsorbent for Direct Air Capture by steam assisted TVSA: Aspen Adsorption Simulation | Bijan | Barghi | DACMa GmbH |
| 213 | Odor Adsorption in Zeolites: Theoretical and Experimental Studies on Natural Clinoptilolite | Izabela | Czekaj | Cracow University of Technology |
| 270 | Synthesis and Characterization of Additively Manufactured Iron Beta Zeolites for Methane Oxidation | Merle | Blum | Technical University of Munich |
| 271 | Iron-Containing Beta Zeolites for Methane Oxidation and SCR: Influence of Synthesis Methods and Dual-Emission Control Potential | Anne | Niederdränk | Technical University of Munich |
| 287 | NOx-storage-reduction process in an electric field at low temperatures | Yuki | Inoda | Waseda University |
| 295 | Investigation of additive manufactured catalysts for the methane oxidation reaction | Sebastian | Wilmes | Technical University of Munich |
| 306 | VOCs removal with the valorization of the produced CO2: Hybrid catalysis to solve two issues at single blow | Roberto | Fiorenza | University of Catania |
| 310 | Kinetics of site transformations in Pd/AEI passive NOx adsorber | Richard | Knopp | University of Chemistry and Technology, Prague |
| 1451 | Interactions of propene with a Cu/SSZ-13 catalyst for selective catalytic reduction of NOx | Richard | Knopp | University of Chemistry and Technology, Prague |

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| 395 | Mechanistic insights into Direct Air Capture of CO2 with carbon supported K2CO3 sorbents using In Situ XRD | Harry | Bitter | Wageningen University |
| 435 | Waste derived activated carbon for CO2 capture and energy storage applications | Maria | Erans | University of Valencia |
| 446 | NH3-SCR at 600 °C – Suppression of NH3 Oxidation and By-Product Formation using Tailored CeO2/WO3/TiO2 Catalysts | Jan-Hendrik | Honerkamp | Hochschule Niederrhein |
| 459 | Activation of Methane over Aluminosilicate Zeolites | Natnicha | Yotpanya | Institute of Science Tokyo |
| 1178 | Oxidative methane reforming over metal-free ZSM-5 zeolite | Natnicha | Yotpanya | Institute of Science Tokyo |
| 480 | Efficient Utilization of $H_2$-DeNOx for NOx Reduction in Coffee Roasting Applications | Andreas | Roppertz | University of Applied Science Niederrhein |
| 1449 | Mechanistic Insights into $Pt/CeO_2/TiO_2$ Catalysts for Low-Temperature Oxidation of CO and VOC in Small-Scale Combustion Applications | Andreas | Roppertz | University of Applied Science Niederrhein |
| 530 | Effect of Pressure on the Performance and Stability of Fe-Zeolite Catalysts for NH3-SCR of N2O and NOx in Green Shipping | Anders | Riisager | Technical University of Denmark |
| 587 | Development of perovskite-based catalyst for the elimination of pollutants such as VOC, CO and PM emitted by wood stoves | Louis | Garin | UNamur - Stûv S.A. |
| 591 | Synergistic Approaches in Non-Thermal Plasma Catalysis for Greenhouse Gas Mitigation | Juliane | Titus-Emse | enaDyne GmbH |
| 611 | Industrial Implementation of Catalytic Oxidation for Fugitive Lean Methane Streams | Michael | Stockenhuber | University of Technology Sydney |
| 624 | Revealing the Impact of $SO_2$ on the $DeNO_x$ Properties of $K/Co_3MgMnAlOx$ | Tereza | Bílková | Institute of Environmental Technology, CEET, VSB-TUO |
| 632 | Tuning of Au-TiO2 Interface for Enhanced Catalytic CO oxidation at Low Temperature | Bushra | Mughal | Cardiff University |
| 673 | Using forced dynamic reactor operation to increase the activity and selectivity of Pd-based NH3 oxidation catalysts | Thomas | Häber | Karlsruhe Institute Of Technology |
| 862 | Understanding Lanthanide doping in a MnFeOx catalyst for NOx reduction with NH3 | Cristina Querios | Da Silva | King Abdullah Univ.of Sci.and Technology |
| 887 | NO control via H2-selective catalytic reduction (H2-SCR) on bi-metallic Pd-Pt/CeO2-ZrO2 Catalysts | Baqer | Aljaman | King Abdullah Univ.of Sci.and Technology |
| 888 | Catalytic removal of air pollutants on redox metal-doped potassium glasses | Piotr | Legutko | Jagiellonian University |
| 924 | Effect of copper concentration on the characteristics of potassium silicate glasses tailored for catalytic purposes | Piotr | Legutko | Jagiellonian University |
| 979 | Methanol oxidation over doped transition metal catalysts | Elpida | Zeza | Centre for Research & Technology, Hellas |
| 1079 | The Effects of Morphology and Composition of Co3-xMnxO4 Spinel Catalysts on 2-Propanol Oxidation | Saskia | Arnold | Kiel University |
| 1096 | Carbon monoliths manufactured using 3D printing for catalytic applications | Iván | Martínez-López | University of Alicante |
| 1115 | In-situ studies on methanol oxidative dehydrogenation | Tiina | Laitinen | University of Oulu |
| 1152 | Development of Monolithic Catalysts for Domestic Stationary Combustion Sources | Martin | Jakubec | Ranido |
| 1199 | Enhancing low-temperature catalytic oxidation of indoor pollutants through copper-manganese oxides | Marco | Piumetti | Politecnico di Torino |
| 1225 | Catalytic Combustion of Hydrogen at Sub-Zero Temperatures | Anders | Ersson | Scania CV AB |
| 1239 | Tailoring CeO2/CuOx inverse catalysts for the CO-PROX reaction | Katia de Jesús | Gómez-Villegas | Universidad de Alicante |

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| 1299 | Selective Catalytic Reduction of NOx from Hydrogen Internal Combustion Engines | Savitha | Srinivasan | Chalmers University of Technology |
| 1347 | Environmental impacts of hydrothermal synthesis of ceria nanoparticles as support for catalyst preparation | Silvia | Gross | Karlsruhe Institute of Technology / University of Padova |
| 1493 | A rationally based wet-chemistry toolbox to tailor-made inorganic heterogeneous catalysts and supports: Navigating the experimental parameters landscape | Silvia | Gross | Karlsruhe Institute of Technology / University of Padova |
| 1359 | Redox behavior of Fe species in zeolites used in environmentally important processes monitored by in-situ Mössbauer spectroscopy | Agnieszka | Kornas | Czech Academy of Sciences |
| 1375 | Alloying and Segregation Effects in Supported Palladium-Silver Alloy Catalysts During Carbon Monoxide and Methane Oxidation | Willow | Dew | NTNU |
| 1382 | Experimental and modelling analysis of innovative catalytic substrates for DeNOx Aftertreatment systems in Zero-Impact power units fueled with Neutral CO2 Green H2 | Federico Sascha | Franchi | Politecnico Di Milano |
| 1396 | Mass-Selected Pt Clusters Deposited on CeO2 Thin-Films: A Model Catalyst Study Using a Dedicated UHV Reactor | Ramin | Shadkam | Karlsruhe Institute of Technology |
| 1413 | Minimizing secondary emissions during NH3-SCR of NOx | Simon | Barth | Karlsruhe Institute of Technology |
| 1433 | Photocatalytic CO2 Reduction Using IL/MOF Composite Photocatalysts | Laura | Esteves | Instituto Superior Técnico |
| 1491 | Hydrodeoxygenation of Palmitic Acid over Ni-based bifunctional catalysts | Laura | Esteves | Instituto Superior Técnico, Universidade de Lisboa |
| 1444 | Insights on NH3-SCR redox kinetics by operando UV spectroscopy | Chiara | Negri | Politecnico di Milano |
| 1469 | Electrospinning: An Advanced Method for Synthesizing Heterogeneous Catalysts for Treating Gaseous Emissions | Karel | Soukup | Czech Academy of Sciences |

| Poster ID | Tuesday September 2 | Special session 2: Intermetallic compounds in catalysis | | P1, Pirsenteret |
|---|---|---|---|---|
| 626 | High-Throughput Combinatorial Screening of Alloy Libraries by Magnetron Sputtering | Lukas | Thum | Helmholtz-Zentrum Berlin für Materialien und Energie |
| 792 | Structural Resolution of Various Active Species in GaPt Supported Liquid Metal Catalysts for Dehydrogenation Reactions | Tzung-En | Hsieh | Helmholtz-zentrum Berlin Für Materialien Und Energie |
| 1182 | Tuning nanoparticle proximity and size: Controlling the agglomeration narrative of metal/TiO2 nanosheet catalytic systems. | Anusha | Jain | IIT DELHI |
| 1369 | Synthesis and characterizations of CeO2/HEO for CO oxidation | Isabel | Serrano | Universitat Politècnica de Catalunya |

| Poster ID | Tuesday September 2 | Gas to liquids technology (based on hydrogen, natural gas, biogas, coal and biomass gasification) | | P2, Pirsenteret |
|---|---|---|---|---|
| 68 | Influence of pressure on the conversion of $CH_4$ and $CO_2$ to acetic acid using natural clay catalyst supported with ZnO and CeO2. | Gabriel | Lopes | USP |
| 136 | Shaping and Stabilizing the Active Phase: The Role of Carbon Surface Defects in Carbon-Supported Co Fischer-Tropsch Catalysts | Felix | Herold | Norwegian University of Science and Technology |
| 235 | CO2 direct FT synthesis over cobalt catalyst supported on rare earth oxide | Shigeo | Satokawa | Seikei University |

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| 312 | Integrated DFT-Monte Carlo approach to modelling Co nanoparticles | Enrico | Sireci | Karlsruher Institut für Technologie |
| 345 | Mg-rich malachite as a catalyst precursor for Cu/MgO applied in the CO hydrogenation to methanol | Bjarne | Taetz | Kiel University |
| 346 | CO2 to aromatic hydrocarbons: Effect of magnetic field and iron oxide/ZSM-5 zeolite catalysts. | Manop | Charoenchaitrakool | Kasetsart University |
| 364 | Examining the effect of zirconium doping in LaNiO3 perovskites on their performance as catalysts for dry methane reforming | Juan | Alcañiz-Monge | Alicante University |
| 369 | Unusual redox dynamics of Nb in the perovskite LaNbxNi1-XO3 and its impact on the dry catalytic reforming of methane. | Gema | Gil-Muñoz | Universidad de Alicante |
| 370 | Exploring the role of zeolites as nickel supports in dry methane reforming. | Gema | Gil-Muñoz | Universidad de Alicante |
| 375 | CO pulse enabled time resolved in-situ investigation of the chemical structure of Co(0001) FTS model catalysts under reaction conditions | Pinar | Sakoglu | Helmholtz Zentrum Berlin, HZB |
| 506 | Developing a model catalyst system for investigating metal-support-interaction in Fischer-Trosch synthesis | Tianli | Zhong | Helmholtz Center Berlin |
| 575 | Effects of Types of Calcination Gases on Co/ZSM-5 for Selective Production of Liquid Fuels by Fischer-Tropsch Synthesis | Seon Ju | Park | Korea Research Institute of Chemical Technology |
| 608 | Tailoring Dual-Cycle Mechanisms in MTH Processes | Xuan | Gong | King Abdullah Univ.of Sci.and Technology |
| 656 | Activation of small molecules over low valent vanadium species stabilized in ferrierite zeolite | Mariia | Lemishka | Czech Academy of Sciences |
| 698 | Secondary Promoting Effect of Gallium in Cu/ZnO Methanol Catalysts | Peter | Mikosch | Kiel University |
| 794 | Preparation of Fe, Co and Ni single and bimetallic catalysts supported on Sm-doped $BaCeO_3$ and their activity in ammonia synthesis | Hubert | Ronduda | Warsaw University of Technology |
| 928 | MOF-808 as effective support for Cu-based catalyst for $CO_2$ Hydrogenation to Methanol | Abinavnataraj | Ramakrish-nan | University of Stavanger |
| 945 | Effect of the synthesis method of iron-neodymium catalysts on the properties and activity in ammonia synthesis | Małgorzata | Lemańska | Warsaw University of Technology |
| 1030 | FeMOFs: Capillary effect for sustainable light alkane oxidation | Morena | Chiariotti | University of the Basque Country |
| 1151 | Cobalt supported on highly mesoporous USY zeolites as bifunctional catalysts for the one-step conversion of syngas to liquid fuels | Agustin | Martinez | Instituto de Tecnologia Quimica |
| 1190 | Ni/Y2O3-Al2O3 catalysts active for biogas upgrading to syngas by combined steam dry reforming | Mihaela Diana | Lazar | INCDTIM Cluj Napoca |
| 1287 | 3D-printed catalyst supports for plasma-assisted ammonia decomposition | Weronika | Bulejak | Warsaw University of Technology |
| 1335 | Influence of Mn oxide as a functional promoter in CuO-ZnO/ZrO2 catalyst formulation for CO2 hydrogenation to methanol | Giuseppe | Bonura | CNR-ITAE |
| 1392 | X-ray Raman and Emission Studies of Coking on Metal Modified Zeolites during Catalytic Fast Pyrolysis | Luke | Higgins | Diamond Light Source Ltd. |
| 1408 | Direct CO2 hydrogenation to liquid fuels on a Fe-Zn-Cu-K catalyst | Beda | Rolandi | Politecnico di Milano |

| Poster ID | Tuesday September 2 Refinery catalysis (oil and biomass) | | | P2, Pirsenteret |
|---|---|---|---|---|
| 127 | One-pot epimerization of 1,4-anhydroerythritol via dehydrogenation and subsequent hydrogenation over supported Ru-Ir catalyst | Kei | Sato | Tohoku university |
| 188 | Developing Zeolite-Based Catalysts for Sustainable Aviation Fuel: Hydrocracking Oleic Acid Using Ru and Ni Metals | Nikita | Sarkov | Abo Akademi University |
| 216 | The Synergy of Alloyed Pd and Ni Over H-NbOx: Enhancing Hydrogenation of Lignin Derivatives and Lignin Bio-Oil | Ganesh | More | Material Envi-Lab VSB-TUO Ostrava |

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| 237 | Catalytic hydrodeoxygenation of biomass pyrolysis oil model compounds in a continuous slurry reactor | Rui | Pedro Da Cruz | Technical University of Denmark |
| 246 | Catalytic Stabilization of Fast Pyrolysis Bio-Oil: A Comparative Study of Ni/Al2O3 and Ni-Mo-S/Al2O3 | Amalie Paarup | Krebs | Technical University of Denmark |
| 250 | Oxidative Organosolv Fractionation of Lignocellulosic Biomass Assisted by Solid Catalysis and Biochemical Sugars Conversion | Stamatia | Karakoulia | Center for Research and Technology-Hellas |
| 253 | Metal(IV)-doped silica nanotubes as catalysts for the efficient conversion of ethyl levulinate to γ-valerolactone: unlocking the acidity-reactivity correlation | Martina | Saitta | Université de Namur |
| 258 | Conversion of Aliphatic Hydrocarbons to Aromatics Using HZSM-5 Zeolite Catalysts | Pavel | Lestinsky | Technical University of Ostrava |
| 394 | High Pressure Ring-Opening of Decalin on Supported NiWMo Sulfide Catalysts | Wenshu | Wang | Technical University of Munich |
| 438 | The Electro-Oxidation of β-O-4 Model Compounds monitored in a Chamber-Separated Cell using In Situ ATR-IR Spectroscopy | Sibylle | Schwartmann | Utrecht University |
| 462 | Tuning Performance of Ni–Mo Catalysts for the HDO of Lignin Oils | Christian | Hulteberg | Lund University |
| 552 | Optimized Catalytic Properties of Co Supported on High-Surface-Area Graphite via Ni or Cu Addition for HDF Hydrogenation | Inmaculada | Rodríguez-Ramos | Instituto de Catálisis y Petroleoquímica, CSIC |
| 580 | Oxidative esterification of acetal-protected 5-formylfuran-2-carboxylate over CeO2-supported Au catalysts | Nao | Arai | Hokkaido University |
| 589 | Investigating the role of support in the Hydrodeoxygenation of Phenol on supported Pd catalysts: Insights from Microkinetic Modelling | Arghya | Banerjee | IIT ROPAR |
| 594 | Continuous production of $\gamma$-valerolactone from furfural using optimised catalysts containing Zr and Nb | Anna | Saotta | University of Bologna |
| 616 | Role of hydroxyl group on enhancing kinetics of HMF oxidation to FDCA on MnO2 catalysts: A first-principles based microkinetic modelling | Suwit | Suthirakun | Suranaree University of Technology |
| 672 | Slurry hydrotreating of solid technical lignins and lignin bio-oils: scale-up and choice of catalyst. | Ole | Reinsdorf | RISE-Research Institutes of Sweden |
| 688 | Aqueous Phase Reforming of Maltose: Performance Evaluation of Platinum Catalysts for Value-Added Product Formation | Dhanaji | Naikwadi | TU Delft |
| 693 | Pyrolysis Oil Upgrading to Aromatics | Miao | Sun | Saudi Aramco |
| 706 | From model compounds to lignin: Selective C-O bond cleavage by Ru nanoparticle size control | Lucía | Camarena Peiró | Instituto de Tecnología Química |
| 715 | Aldol Condensation of Cyclopentanone and Furfural on Ce-Based Catalysts for Production of Sustainable Aviation Fuel Precursors | Olha | Yevdokimova | Åbo Akademi University |
| 722 | Improving catalyst stability in pyrolysis oil hydrotreating by cofeeding CO- and CO2-containing gases | Salvador | Ordonez | University of Oviedo |
| 734 | Catalytic hydrocracking of Fischer-Tropsch wax to produce high-value hydrocarbons | Maria | Goula | University of Western Macedonia |
| 766 | Optimization and Performance Evaluation of Ru-Supported Catalysts in the Aromatization of Long-Chain Terminal Alkenes | Matea | Bacic | ITQ-UPV-CSIC |
| 771 | Catalytic hydrotreating of waste tire pyrolysis oil | Huy Xuan | Le | Chalmers University of Technology |
| 857 | Circular strategies to Exploit Lignin and obtain Catalysts for Biomass-derived Molecules Valorization | Chiara | Bruschetta | University of Turin |
| 913 | Investigating the structure-transport relationship of catalytic supports for both liquid and gas phase diffusional systems using NMR cryodiffusometry, hyperpolarised 129Xe MRI and PFG-NMR | Dina | Lofficial | IFP Energies Nouvelles |

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| 962 | Operando FTIR-ATR analysis on the reductive amination of furfural over Pd/ZrO2-TiO2 catalysts: Effect of acid sites on product selectivity | Daviel | Gómez | Instituto de Tecnología Química |
| 970 | Selective deoxygenation of lignin model compounds by bifunctional Ni-supported catalysts | Camila | Abreu Teles | Université de Poitiers |
| 1007 | Catalyst deactivation during pyrolysis oil stabilization | Yves | Schuurman | Cnrs |
| 1042 | Nickel Promotion Effects in Rhenium Catalysts for Levulinic Acid Hydrogenation in the Aqueous Phase | Néstor | Escalona | Pontificia Universidad Catolica de Chile |
| 1100 | Synthesis and incipient impregnation of MCM-22 zeolite for the one pot conversion of furfural to γ-valerolactone. | Yuri | Lima | University of São Paulo |
| 1101 | Operando Characterization of MoO3 during the Hydrodeoxygenation of Anisole | Filip | Hallböök | Lund University |
| 1185 | Hydroproccessing of stabilized pyrolysis oils at moderate pressure | Nikolaos | Tsakoumis | SINTEF |
| 1253 | Catalytic Upgrading of Biomass Pyrolysis Oil to Sustainable Biofuels Applied in Transportation | Tomáš | Ružovič | RANIDO, s.r.o. |
| 1338 | Transforming Glycerol into High-Energy Biofuels: Process Optimisation & Techno-Economic Viability | Juan Jose | Villora Pico | Queen's University Belfast |
| 1353 | Understanding Mixture Effects in Hydroprocessing of Non-Conventional Feedstocks for Sustainable Aviation Fuel | Pedro | Mendes | Instituto Superior Técnico |
| 1361 | The role of hydrogen-deficient species during alkylamine hydrotreating on Pt | Joakim | Kattelus | Aalto University |
| 1365 | Catalytic hydrodeoxygenation of bio-oil produeced by pyrolysis of different biomasses | Nehander Carlos | Mendes Felisberto | Instituto Militar de Engenharia |
| 1377 | Characterization of zeolite catalysts for aromatization of bio-oil model compounds with operando UV/Vis diffuse reflectance spectroscopy | Ida | Uotila | VTT Technical Research Centre of Finland |
| 1379 | Hydrogenation on Molybdenum Sulfide Clusters Encapsulated in Alkali Cation-Exchanged Zeolites | Yunxiang | Sheng | Technical University of Munich |
| 1473 | Optimizing the hydrogenation and acidic function of bi-functional HDO catalyst via strong metal-support interaction | Ajaikumar | Samikannu | Umeå University |
| 1499 | Dehydrogenation Mechanism of Hydrous Ethanol over Cu/MgO$Al_2O_3$ for Acetaldehyde Production | Maria Soledad | Chino Mamani | KTH-Royal Institute of Technology |
| 1504 | Hydrodeoxygenation of Black Soldier Fly Larvae Lipids | Jon | Selimi | Lund University |
| 1556 | Ethylene Oligomerization: Advancing Sustainable Jet Fuel Production Technologies | Ehsan | Mahmoudi | KU Leuven |

| Poster ID | Tuesday September 2 Liquid or solid purification or waste re-duction | | | P2, Pirsenteret |
|---|---|---|---|---|
| 20 | A One-Stone-Two-Birds Strategy to electrochemical dual degradation | LingZhen | Miao | Nanjing University of Science and Technology |
| 153 | Solar-driven degradation of contaminants of emerging concern using tailored photocatalytic materials | Hrvoje | Kusic | University of Zagreb |
| 197 | Industrial demand and related solution of sorbent optimization for gasoline desulfurization in fluidized-bed reactor | Bo | Peng | SINOPEC Research Institute of Petroleum Processing Co., |
| 425 | Optimizing g-C3N4 Photocatalysts Through a Statistical Design | Albin | Pintar | National Institute of Chemistry of Slovenia |
| 443 | Nanoshaped Plasmonic Materials: Driving Efficiency in Photocatalysis | Albin | Pintar | National Institute of Chemistry of Slovenia |
| 444 | Elucidating the effect of nanocube support morphology on the hydrogenolysis of polypropylene over Ni/CeO2 catalysts | Donald | Inns | University of Liverpool |

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| 461 | Application of Indirect Techniques of Electron Paramagnetic Resonance Spectroscopy in Heterogenous (Photo)Catalysis | Dana | Dvoranová | Slovak University of Technology |
| 730 | Preparation of Supported Palladium Catalysts By Liquid-Liquid Extraction of Electronic Waste Leachates | Dmytro | Nikolaievskyi | CNRS / Institut de chimie séparative de Marcoule |
| 772 | Magnetite – cheap and efficient photocatalyst for reductive degradation of POPs | Joanna | Kisała | University of Rzeszow |
| 884 | Inorganic Sulfide Oxidation by Modified Nb-containing Photocatalysts Using Visible Light | Flávia | Moura | University Federal of Minas Gerais |
| 949 | ACTIVATED BORANE AS AN EFFICIENT CATALYST FOR DEFLUORINATION OF ORGANIC HALIDES | Abhishek | Udnoor | Czech Academy of Sciences |
| 1274 | Kinetic Optimization of a Model MnCeOx Catalyst in the Wet Air Oxidation of Phenol (CWAO) | Alessandro | Cajumi | Università degli studi di Messina |
| 1370 | ZnO synthetized from spent batteries for photocatalytic and antibacterial applications | Leyla | Jaramillo | Tecnológico De Antioquia |
| 1536 | Analysis of Hazardous Heavy Elements in Soil and Sediment by WDXRF | Carmen | Kaiser Brügmann | Rigaku Europe SE |

| Poster ID | Tuesday September 2 Circular processing/applications | | | P2, Pirsenteret |
|---|---|---|---|---|
| 26 | Photo-assisted conversion of nitrates to ammonia | Jacinto | Sá | Uppsala University |
| 78 | High yield of light olefins in LDPE cracking over Lewis acidic Sn-Beta | Koji | Miyake | Osaka University |
| 146 | Catalytic hydrogenolysis of polyolefins wastes towards hydrocarbons | Antigoni | Margellou | Aristotle University of Thessaloniki |
| 163 | Mechanistic Insights in the Oxidative Conversion of Polyethylene Towards Di-carboxylic Acids with O2/NO | Tom | Smak | Utrecht University |
| 164 | Photochemical upcycling of bio-based microplastics | Athanasia | Kotsaridou | Aristotle University of Thessaloniki |
| 261 | Mechanochemical hydrogenolysis and oxidative depolymerization of polystyrene | Yaru | Gao | Max Planck Institute |
| 406 | Partial hydrogenation of sunflower oil over platinum catalysts | Kainaubek | Toshtay | Al-Farabi Kazakh National University |
| 603 | Rice husk biochar and activation methods for hydrogenation catalysts | Davide | Baldassin | Ca' Foscari University of Venice |
| 612 | From Aircraft Interiors to Chemical Building Blocks and Back: Circular Recycling of Engineering Plastics | Maximilian | Lorberg | RWTH Aachen |
| 800 | Catalytic Upcycling of Polyethylene via Hydrogenolysis over Ir-Ru Based Bimetallic Nanoalloys | Furkan | Al | Middle East Technical University |
| 828 | Photocatalysts and essential oils to fight microbiological growth | Federica | Menegazzo | Ca' Foscari University of Venice |
| 829 | Testing a NiMoP-catalyst for the chlorine removal in plastic pyrolysis oil upgrading via catalytic hydrotreatment | Carola | Jendrzok | KIT |
| 891 | Polyolefin hydrocracking: mechanism determination from a polymer approach | Sylvie | Maury | IFP Energies Nouvelles |
| 909 | Effect of Antimony oxidative states in Poly(Ethylene Terephthalate) chemical recycling | Corentin | Archimbaud | IFP Énergies Nouvelles |
| 1024 | One-Pot Synthesis of Pyridine Derivatives from Wastewater-Derived Ammonium Carbonate | Yuichi | Manaka | National Institute of Advanced Industrial Science and Technology |
| 1157 | Upgrading the chemical composition of plastic pyrolysis oils by hydrotreatment with metal supported catalysts | Aitor | Arandia | VTT Technical Research Centre of Finland |
| 1179 | Stable & active LOHC dehydrogenation catalyst synthesis by ball milling | Krista | Kuutti | VTT |

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| 1206 | Noble metal enhanced 3D graphenes for glycerol oxidation | Monica | Dan | National Inst. for Res. and Dev. of Isotopic and Molecular Technologies |
| 1212 | Exploring Fly Agaric Mushrooms as Vanadium-Based Catalysts for Oxidation Reactions | Jessica | Michalke | Technical University of Leoben |
| 1238 | Impact of treatment conditions on catalysts activity and stability in glycerol hydrogenolysis | Francesco | Valentini | TU Wien |
| 1402 | Supported C-catalysts in C1 chemistry and beyond | Gabriella | Garbarino | University of Genova |
| 1549 | Catalytic fast pyrolysis of plastic waste using inexpensive clay catalyst: activity testing and comparative study in batch and pilot scale. | Hammad | Ali | Norwegian University of Science and Technology |

| Poster ID | Tuesday September 2 Special session 7: Sustainable fuels and chemicals via syngas | | | P2, Pirsenteret |
|---|---|---|---|---|
| 429 | Lanthanum promotes CO2 methanation over Ru/carbon catalyst | Elżbieta | Truszkiewicz | Warsaw University of Technology |
| 454 | Improved Al2O3-based catalyst performance through 3D printing | Jurjen | Cazemier | Flemish Institute for Technological Research - VITO |
| 519 | Hydrogenation of carbon dioxide on composite materials to produce components of synthetic fuels and chemicals | Manap-khan | Zhumabek | D.V. Sokolsky Institute of Fuel, Catalysis and Electrochemistry |
| 550 | Light-assisted methanol synthesis over M3+ doped Cu/ZnO | Matthias | Rehner | Technical University of Munich |
| 795 | Tuning catalytic performance through Atomic Layer Deposition of Transition Metals on Mesoporous Surface | Jordi | Guilera | Catalonia Institute for Energy Research |
| 1044 | Sustainable Energy Solutions: Utilizing Plastic Waste for the Development of MOF-Based Photocatalysts for e-fuels | Abdul Rehman | Khan | University of Oulu |
| 1083 | Selectivity and coking behaviour of rWGS catalysts at industrially relevant conditions | Lorenz | Lindenthal | Montanuniversität Leoben |
| 1203 | 3D X-ray Micro-Tomography for Studying Wax Formation and Dewaxing in Fischer-Tropsch Catalysts | Reihaneh | Pashmine-hazar | Karlsruhe institute of Technologhy |
| 1414 | Bimetallic Cu-Re/$ZrO_2$ catalysts for selective hydrodeoxygenation of furfural to 2-methylfuran | Fabio | Souza Toniolo | Federal University of Rio de Janeiro |
| 1424 | Ethylene Oligomerization over Ni/HUSY and Ni/HZSM5 Catalysts: Impact of Zeolite Topology on Product Distribution | Fabio | Souza Toniolo | Federal University of Rio de Janeiro |
| 1450 | Ce-Promoted Ni-Based Catalysts for High-Performance Methanation: Insights from Structural Analysis | Burcu | Acar | Boğaziçi University |

| Poster ID | Tuesday September 2 Hydrogen production in a low emissions scenario | | | Aurora, Clarion |
|---|---|---|---|---|
| 49 | The Synergistic Effect of Pore Architect and Reducibility in Ceria-Promoted Ni Molecular Sieve for Methane Dry Reforming | Norah | Alwadai | Princess Nourah B. A. university |
| 56 | Enhancing Ni over Zirconia-Scandia Oxide Support for H2 Production via Ga, Sr, and Ce Doping | Salma | Al-Zahrani | University of Ha'il |
| 59 | Photocatalysis for artificial photosynthesis aiming at carbon neutrality | Akihiko | Kudo | Tokyo University of Science |
| 64 | A Combined Theoretical and Experimental Perspective on Hydrogen Evolution Through Photoreforming of Methanol on Metal-Loaded Anatase (101) | Matthew | Wiggleswort h | University of Sheffield |

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| 71 | Optimizing Hydrogen-Rich Syngas Production from Methane Partial Oxidation over Ni-Promoted Catalysts: The Role of Reducibility and Surface Properties | Ahmed | Al-Fatesh | King Saud University |
| 483 | Effect of Potassium Promotion on Bimetallic Iron-Cobalt Catalysts for Hydrogen Release from Ammonia | Yannick | Baum | Christian-Albrechts-Universität zu Kiel |
| 602 | PtNi/Mg(Al)O catalyst in Aqueous Phase Reforming (APR): the role of hydrogenations in the mechanism leading to H2 from cellulose | Andrea | Fasolini | University of Bologna |
| 701 | The effect of the addition Fe to Ni-based layered double hydroxide catalyst on catalytic pyrolysis of methane and carbon morphology. | Tomasz | Skrzydlo | University of Stavanger |
| 705 | Influence of Dopant and Biogas Composition on the Performance of Ni Catalysts Supported on Cerium-Based Oxides in Dry Reforming of Methane | Fabio | Bellot Noronha | National Institute of Technology Brazil |
| 761 | Reductive catalytic depolymerization of Organosolv lignin over Pd/Nb2O5: an alternative route for the production of sustainable aviation fuel | Fabio | Bellot Noronha | National Institute of Technology Brazil |
| 755 | Ni@Al2O3 core-shell like catalyst for Methane Dry Reforming puropses | Rachele | Braido | Ca' Foscari University of Venice |
| 780 | Modeling of Dry Reforming of Methane for H2 Production in a Catalytic Membrane Reactor | Panagiotis | Boutikos | Foundation for Research and Technology Hellas |
| 786 | Efficient Hydrogen Production via Ammonia Decomposition: Investigating Ni-based Catalysts with Varying Support Properties | Morgana | Rosset | Universidade de São Paulo |
| 790 | Decarbonisation of carbon-intensive industries via the combination of advanced chemical looping technologies and catalytic processes | Jose Ramon | Fernandez | INCAR-CSIC |
| 826 | Catalytic activity of lignin-based materials for H2 production and storage | Elisabetta | Borsella | Italian National Agency for New Technologies |
| 841 | Utilizing aqueous-phase reforming to extract value from biorefinery residual waters: effect of process conditions and individual compounds | Jasmiina | Palo | VTT Technical Research Centre of Finland |
| 843 | Microwave Assisted Pyrolysis of Crude Oil: A Detailed Gas and Liquid Products Analysis | Intisar | Ul Hassan | King Fahd University of Petroleum and Minerals (KFUPM) |
| 849 | Two-Dimensional Materials for Photocatalytic Green Fuel Production | Luisa | Pastrana Martinez | University of Granada |
| 860 | Boosting Catalyst Stability: Ti and Cr-modified La0.98Ni1-xB'xO3 perovskites for Optimised Exsolution in Methane Steam Reforming | María A. | Ortega-Jáuregui | Pontificia Universidad Católica de Chile |
| 892 | Catalytic Biogas Reforming: experimental results and model validation | Emanuele | Moioli | Politecnico di Milano |
| 894 | From Flames to Function: A Journey from Synthesis to Exsolution | Tobias | Berger | Technical University of Leoben |
| 938 | Investigation of the catalytic performance of Pt/C and Pt/Al203 in the cyclic hydrogenation and dehydrogenation of (perhydro) benzyltoluene | Felix | Kurz | Forschungszentrum Jülich GmbH |
| 992 | Evaluating IrO2 stability using in-line setup of electrochemical flow cell and ICP-MS | Frode | Seland | NTNU |
| 997 | Flame Spray Pyrolysis: Unlocking New Pathways for Perovskite Production | Maximilian Rudolf | Groiß | Technical University of Leoben |
| 1009 | Ni-Mo Nanoparticles Supported on Mg-Al Mixed Oxide as coke-resistant catalyst for methane dry reforming | Claudio | Evangelisti | ICCOM-CNR |
| 1034 | Palladium on Urea-modified Activated Carbon for Highly Efficient Hydrogen Storage System Based on Potassium Bicarbonate/Formate | Francesco | Poggialini | ICCOM-CNR |

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| 1041 | In-situ SR-XRD investigation of catalytic auto thermal reforming of methane over Rh-Ni catalyst | Cristiane | Rodella | Brazilian Center for Research in Energy and Materials - Brazilian Synch. Light Laboratory |
| 1056 | First Application of the Microcombinatorial TEM Method for Methane Pyrolysis over NiMo/MgO Catalysts | Anita | Horvath | HUN-REN Centre for Energy Research |
| 1057 | Mo-Ni Bimetallic Catalysts for Methane Decomposition: Formation and Role of the Alloyed Phases | Anita | Horvath | HUN-REN Centre for Energy Research |
| 1066 | Clean Hydrogen Production via Ammonia Cracking over B5-Site-Rich Ru/MgAl2O4 Catalysts | Kee Young | Koo | Korea Institute of Energy Research |
| 1146 | Insights in the mechanochemical preparation of Ru/CeO2 Catalysts from Organometallic Precursors | Alessandro | Trovarelli | Università di Udine |
| 1159 | Enhanced separation and thermal water splitting activity by nanostructured dense ceramic membranes | Vittoria | Saraceni | University of Bologna |
| 1163 | The role of alumina phases and Fe, Ni incorporation effect for the decomposition of methane in COx-free H2 production. | Lasse | Yli-Varo | Oulu University |
| 1173 | Development of a Microwave-Susceptible Heterogeneous Catalyst for the Super Dry Reforming Process | Miloš | Václavík | RANIDO s.r.o. |
| 1201 | Facile Preparation of Co@BaO Encapsulated in Carbon Cages as an Efficient Catalyst for Ammonia Synthesis | Katsutoshi | Nagaoka | Nagoya University |
| 1243 | Advanced kinetic analysis of coke combustion over nickel catalysts in Methane Dry Reforming: Insights from Isoconversional and Master-Plot methods | Andoni | Choya | University of the Basque Country |
| 1339 | Regeneration strategies of Ni-Co foam-structured catalysts for the dry reforming of methane | Andoni | Choya | University of the Basque Country |
| 1267 | Promoting the stability of advanced Ni catalysts supported over ceramic foams for dry reforming of methane | María | Córdoba | University of the Basque Country |
| 1282 | Aqueous-Phase Reforming of Xylose over Ni and Co Exsolved Perovskites | Juan | Seguel | Pontificia Universidad Catolica de Chile |
| 1303 | Zeolite-Based Catalysts for Ammonia Decomposition: A Pathway to Clean Hydrogen for Low-Carbon Fuel Economy | Agathe | Pascault | UCL |
| 1312 | Ni-Ru/CeO2 catalysts for the production of H2 by ethanol steam reforming | Diana Alexandra | Chirita | University of Alicante |
| 1385 | Influence of reaction temperature and acidity of Ni/ZSM-5 catalysts on the dry methane reforming reaction | David | Serrano | Imdea Energy |
| 1438 | Self-Sustaining Methane Tri-Reforming to Produce Hydrogen | Deniz | Uner | Middle East Technical University |
| 1439 | Investigations of Microwave Assisted Methane Decomposition Reaction Using Trimetallic Ni-Fe-(Pd/La) Supported Catalysts | Rukan Can | Seyfeli | Gazi University |
| 1519 | Ultraviolet Assisted Structural Modification of NiFe Prussian Blue Analogues for Improved Oxygen Evolution Reaction | Rana | Sami Ul Haq | University of Newcastle |
| 1521 | Biomass-to-hydrogen: the catalytic assessment of dolomite-based catalysts in water gas shift reaction | Francesco | Pietramale | University of Calabria |
| 1524 | Porous photocatalysts for H2 production | Elies | Molins | ICMAB-CSIC |
| 1525 | Design of a microwave catalytic reactor for high temperature reactions | Mirko | Scanferla | University of Padova |

| Poster ID | Tuesday September 2 $CO_2$ activation and upgrading | | | Aurora, Clarion |
|---|---|---|---|---|
| 70 | Optimizing Zr/Cu Interfaces for CO2-mediated N-Methylation of Amines | Bilyu | Hong | Xiamen University |
| 101 | Electroreduction of CO2 into CO over zeolite-templated nitrogen-doped carbon catalysts | Kotaro | Narimatsu | Osaka University |
| 105 | Mechanistic studies of integrative CO2 capture and photothermal CO2-to-Methanol conversion with reusable amine and catalyst PdCu-MRF | Xiaofang | Shang | Nanjing university of science and and technology |
| 559 | Optimizing Vanadium-Impregnated Small Pore Zeolite Catalysts for Propane dehydrogenation: A Synthesis-Structure-Activity study | Michiel | Dusselier | KU Leuven |
| 777 | CO2 hydrogenation to light olefins on Fe-Co catalysts supported on CeO2 nanorods | Eirini | Marousi-adou | University of Groningen |
| 806 | Spectroscopic investigation of In2O3-ZrO2 catalyst for CO2 hydrogenation to methanol | Fabio | Salomone | Politecnico di Torino |
| 811 | Single-Layer and Dual-Layer FTIR Analysis for Identifying Reactive Species in $CO_2$ Methanation on Core-Shell Catalyst | Marcel | Sladkov | Hochschule Niederrhein |
| 812 | Enhancing the Efficiency of CO2 Electrochemical Reduction Using Nickel-single-atom Catalysts | Hinano | Kameko | Idemitsu Kosan Co., Ltd |
| 813 | Turning Dirt into Catalysts: Ball-milled α-Al2O3 with Residual Metal Impurities for rWGS and Ammonia Decomposition | Linfeng | Li | Max Planck Institute |
| 825 | Molybdenum-based catalyst for high pressure Reverse Water Gas Shift reaction | Orkhan | Sayidov | King Abdullah Univ.of Sci.and Technology |
| 836 | Feasibility Evaluation of Ionic Liquids Compared to Industrial Amines in Integrated CO2 Capture and Mineralization Process | Swagat Sabyasachi | Sahoo | Indian Institute of Technology Delhi |
| 852 | Lanthanide-Promoted Ni-Based Catalysts for Enhanced Syngas Production via Dry Reforming of Methane | Imtiaz Ul | Hasan | King Fahd University of Petroleum and Minerals |
| 889 | Kinetic Analysis of CO2 Hydrogenation over Fe-based Catalyst in Fixed-Bed and Slurry Reactors | Aleksandr | Fedorov | Leibniz-Institut für Katalyse e. V. |
| 898 | Decoding active sites for the one-step CO2 hydrogenation to DME over PdGa@MFI catalysts | Patricia | Concepcion | Instituto de Tecnología Química |
| 905 | Simulating Membrane Capture of CO2 with Citizen Scientists | Thomas | Ruh | Technical University of Leoben |
| 906 | Synthesis of Dimethyl Carbonate from $CO_2$ Using $CeO_2$-Based Catalysts: An Optimization Study with Artificial Neural Network Modeling | Praveen | Kumar | University of Ljubljana |
| 921 | Aerogel catalysts for P2X applications | Laura | Annunen | University of Oulu |
| 925 | CO2 Hydrogenation to Ethanol over Multimetallic Carbon Catalysts | Mariana Branco Soares | Felgueiras | LSRE-LCM (ALiCE) |
| 931 | Novel indium-based catalysts to improve selectivity in the DME synthesis process via $CO_2$ hydrogenation | Simona | Renda | University of Zaragoza |
| 933 | Sustainable Syngas Production by Methane Dry Reforming over Ceria-Zirconia Supported Ni Catalysts – detailed carbon analysis | Shweta | Kamaliny | IIT (ISM) Dhanbad |
| 957 | Comparative study on the promoter effect of Ce, Mg, Na, Ca and La on the efficiency of Ni/HAP catalysts in the CO2 methanation reaction | Nassima | Berroug | University Of The Basque Country |
| 959 | Metal-Support Interaction in In2O3-Based Catalysts of CO2 Hydrogenation Studied Using “Inverse” In2O3(111)/Ru(0001) Model Catalysts | Jie | Zhu | Fritz Haber Institute of the Max Planck Society |
| 972 | Dimethyl Ether and Methanol Production via $CO_2$ Hydrogenation Using a Novel Bifunctional Catalyst | Aysel | Zahidova | SOCAR Turkey Research & Development and Innovation Inc., |

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| 974 | Carbon:metal oxides composites: a new approach for the development of catalysts for CO2-to-methanol conversion | Ana Rita Nunes | Querido | LSRE-LCM, ALiCE, FEUP |
| 975 | Development of CO2 conversion catalysts for decarbonising the aviation sector | Satoshi | Hamao | IHI Corporation |
| 978 | Diamine-Appended Metal–Organic Frameworks Promote the Hydrogenation of CO2 to Methanol at Low Partial Pressures | Fabio André | Peixoto Esteves | Paul Scherrer Institute |
| 982 | In situ Near Ambient Pressure X-ray Photoelectron Spectroscopy (NAP-XPS) Investigation of CO2 Methanation over Ruthenium Nanoparticles Supported on Alumina | Guillaume | Rod | Laboratory of Materials for Renewable Energy (LMER) joint lab of EPFL and Empa |
| 1001 | Evaluation of Chemically Modified Zeolites for the Conversion of CO2 and CH4 | Victor | Albertini | Universidade de São Paulo |
| 1003 | From biogas to biomethane through CO2 methanation: catalyst optimization and catalytic process design | Ilenia | Rossetti | Università degli Studi di Milano |
| 1014 | Effect of Ce/Sc Ratio on Ni-Based Catalysts Supported on MgAlOx for Dry Reforming of Methane | Hanan | Atia | LIKAT Leibniz Institute for Catalysis |
| 1017 | Effects of synthesis method and K addition in Cu/MOFs on CO2 hydrogenation under mild conditions | Janaina | Fernandes Gomes | Universidade Federal de São Carlos |
| 1019 | Porous lamellar Cu-ZnO catalysts for CO2 hydrogenation to methanol | Janaina | Fernandes Gomes | Universidade Federal de São Carlos |
| 1032 | Spinel-supported exsolved Fe-X (X=Cu, Ni) heterostructures for CO2 to light olefins | Shailza | Saini | University of Surrey |
| 1033 | Cobalt Catalysts for Fischer–Tropsch e-Fuels Production | Urszula | Ulkowska | Warsaw University Of Technology |
| 1038 | DFMs for CO2 Methanation: Impact of Feed Impurities on Capture Efficiency | Muhammad Asif | Nawaz | University of Seville, Spain. |
| 1053 | Investigation of K-Rh-Fe Supported Catalysts for CO2 Hydrogenation to Ethanol: A Study of Substrate Effect | Angeliki | Latsiou | University of Western Macedonia |
| 1054 | Steel monoliths with advanced designs: Proof of concept for NiO-$CeO_2$ (np) catalyzed $CO_2$ methanation | José Clemencio | Martínez Fuentes | Universidad de Alicante |
| 1058 | Effect of Promoter and Ratios in Iron-Molybdenum/Rhenium Catalysts for CO2-FT. | Colomba | Capo | Pontificia Universidad Católica de Chile |
| 1073 | Low loading copper-based catalysts for effective CO2 hydrogenation to methanol | Rodrigo G. | Pizarro | University of Zaragoza |
| 1075 | Nanoconfinement of Ni clusters in structured carbon catalysts | Jaroslava | Moravkova | Czech Academy of Sciences |
| 1077 | 3D Printed metallic substrates – Comparison between catalyst coating methods | Niko | Virkki | Vtt |
| 1090 | Mechanochemical Synthesis of Dual-Function Materials for the Integrated Capture and Valorisation of Waste CO2 | Maila | Danielis | Università degli Studi di Udine |
| 1158 | The effect of sulfate/sulfide residuals in promoting/suppressing reactivity of Ru/CeO2 CO2 Methanation Catalysts | Maila | Danielis | Università degli Studi di Udine |
| 1093 | A Scalable Artificial Leaf Prototype for CO2 Reduction using Cu-Bi electrocatalysts | Claudio | Ampelli | University of Messina |
| 1099 | Direct conversion of CO2 into hydrocarbons using a K-enhanced Fe catalyst supported on Alginate-derived carbon. | Pio | Gramazio | Norwegian University of Science and Technology |
| 1109 | CO2 hydrogenation to Methanol over Mg promoted Cu-In2O3-Al2O3 based catalysts | Andrea | Bertuzzi | Unversity of Bologna |
| 1118 | Better together: Multi-doped Cu-catalysts for Methanol synthesis | Hedda | Drexler | Technical University of Leoben |

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| 1136 | BCN-based catalyst for enhanced CO2 methanation via thermocatalysis | Vinay | Naral | University of Newcastle |
| 1162 | The synergy between Pd-Cu bimetallic alloy and CeO2 surface for CO2 hydrogenation | Xinlian | Su | University College London |
| 1168 | Transition and noble metal doping of In2O3/ZrO2 catalysts for enhancing methanol synthesis via CO2 hydrogenation | Jaime | Soler | Universidad de Zaragoza |
| 1183 | Integrated CO2-to-Methanol System for Industrial Decarbonisation | Aysun Ipek | Paksoy | University of Surrey |
| 1189 | Waste-derived SILica-based porous solids for Carbon diOxide capture, storage and re-use catalytic technology (SILCO Project) | Matteo | Di Virgilio | Politecnico di Milano |
| 1197 | Development of a CO2 electrolyzer for multicarbon production based on heteroatom-doped carbon electrocatalysts | Pablo | Arévalo-Cid | Institute of Catalysis and Petrochemistry |
| 1214 | Structural Evolution and Controlled Exsolution in High-Entropy Oxide Catalysts for $CO_2$ Hydrogenation to Methanol | Simon | Herber | Competence Center Chase GmbH |
| 1219 | Forced unsteady state operations to minimize coke buildup in dry reforming of methane reaction | Deniz | Uner | Middle East Technical University |
| 1220 | Atomically dispersed Cu into N,P-doped carbon: new tuning possibilities for the electrocatalytic CO2 reduction. | David | Ríos-Ruiz | Institute of Catalysis and Petrochemistry, CSIC |
| 1230 | Electrocatalytic CO2 reduction with a Cu(I) metal-organic framework | Julie | Brun | University of Oslo |
| 1232 | Promotion of high entropic oxide catalysts for the hydrogenation of CO2 to methanol | Florian | Kühberger | Competence Center CHASE |
| 1237 | Supported MoS2 catalysts for CO2 hydrogenation to methanol: investigating the interplay between oxides and sulfides via In-situ X-ray absorption spectroscopy | Gustavo | Andrade Silva Alves | TU Wien |
| 1297 | Methanol synthesis on zinc decorated, stepped copper surfaces | Emanuel R. | Billeter | Technical University of Denmark |
| 1445 | Investigation of S poisoning on Ru/Al2O3 catalysts for CO2 hydrogenation to methane via ex-situ and in-situ techniques | Luca | Lietti | Politecnico di Milano |
| 1323 | In-situ Spectroscopic Studies on CO2 Activation and Oxalate formation by Transition Metal Complexes | Esha | Suresh Babu | Leibniz Institute for Catalysis (LIKAT) |
| 1326 | NiO-CeO2 catalysts doped with 3D-ordered macroporous (3DOM) MgO for the capture and hydrogenation of CO2 | Arantxa | Davó-Quiñonero | Universidad de Alicante |
| 1327 | CO2 hydrogenation into methanol and DME using Cu-ZrO2@SiO2 core-shell catalysts | Vitor Duarte | Lage | UFRJ/COPPE |
| 1330 | Nanoconfinement of metal-supported catalysts inside pores boosting hydrogenation reactions | Petr | Sazama | Czech Academy of Sciences |
| 1342 | On the local environment of Mg in MgAPO-18 | Christophe | Coudercy | University of Oslo |
| 1373 | Carbon-Based Supports for Nickel Catalysts: Structural and Textural Effects on $CO_2$ Hydrogenation to Methane | Nikola | Kostková | University of Pardubice |
| 1376 | Surface Carbon Formation and its Impact on Methane Dry Reforming Kinetics on Rh-Based Catalysts by Operando Raman Spectroscopy | Matteo | Maestri | PoliMi |
| 1388 | Deciphering Size and Shape Effects on the Structure Sensitivity of CO2 Methanation Reaction on Ni | Matteo | Maestri | PoliMi |
| 1395 | Single phase Cu/Mg/M Layered Double Hydroxides photocathodes for Low voltage and highly selective photoelectrocatalytic CO2 reduction | Francesco | Basile | University of Bologna |
| 1415 | Study of Ru/NiO-CeO2 catalysts with carbon and steel supports manufactured by 3D printing for CO2 methanation in pilot plant | Juan | Bueno-Ferrer | University of Alicante |
| 1422 | Enhanced CO2 methanation through distributed feeding in a Ni-Fe/Al2O3 catalyst packed bed membrane reactor (PBMR) | Javier | Herguido | University Zaragoza |
| 1426 | In2O3 and the Promoter Challenge: A Quantum Chemistry and Experimental Quest for CO2 Conversion | Verena | Süß | Fraunhofer ICT |
| 1429 | Enhancing $CO_2$ Methanation Efficiency through Ni-Doped Zeolitic Structures | Galina | Sádovská | Czech Academy of Sciences |

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| 1468 | Immobilization of Pd Single Atoms in UiO-66: Unveiling the Role of Pd Speciation for CO2 Hydrogenation to Methanol | Sahra | Ahmed | University of Oslo |
| 1475 | Dynamic Activation and Deactivation of Cu-Embedded $TiO_2$ for Solar $CH_4$ Generation from $CO_2$ | Shahzad | Ali | University of Oulu |
| 1527 | Tandem Process for $CO_2$ and Ethylene Conversion to Propanol Using a Noble Metal-Free MOF | Dalmo | Mandelli | Universidade Federal do ABC |
| 1534 | Highly active nickel-based fibrous silica ZnO (NSZF) catalyst for efficient syngas production through dry reforming of methane | Khalid | Alhooshani | King Fahd University of Petroleum & Mine |
| 1552 | Palladium recovered from Spent Nuclear Fuels as an electrocatalyst for CO2 reduction into CO | Anthony | Ropp | Orano Support |

| Poster ID | **Tuesday September 2 Special session1: Light as a reagent** | | | **Aurora, Clarion** |
|---|---|---|---|---|
| 17 | Thiol-modified BiOBr designed for enhanced photocatalytic nitrogen fixation | Wei | Cai | Nanjing University of Science and Technology |
| 21 | Synergistic catalysis of copper-nickel-oxide nanoparticles and TEMPO for electrochemical coupling of LLM-116 | Yuqiu | Wang | Nanjing university of science and technology |
| 328/ 1579 | Photolytic Activation of Ni(II)-X Bonds Explains Initiation and C-H Activation in C(sp2)-C(sp3) Bond Forming Reactions | Max | Kudisch | National Renewable Energy Laboratory |
| 472 | On-Surface Synthesis of Polypyrrole on Rutile TiO2 (110) for Model Photocatalysis | Aaron Rasmus | von Seggern | Carl von Ossietzky Universität |
| 505 | Synthesis and characterization of mixed metal NH2-MIL-125 based metal-organic frameworks for use in Rhodamine B degradation. | Javier | Narciso | University of Alicante |
| 692 | Au-Supported Plasmonic Nanoparticles for Selective Oxidation of 5-HMF. | Arthur | Reymond | University of Lorraine |
| 753 | Chemometric optimisation of the solution combustion synthesis experimental parameters of $TiO_2$ photocatalysts | Giacomo | Luzzati | University of Bologna |
| 917 | Controlling Composition and Shape in AuPt Plasmonic-Catalytic Nanomaterials for the Hydrogen Evolution Reaction | Ibrahim | Abdelsalam | University of Helsinki |
| 939 | A Strategy to Avoid X-ray Induced Effects at High Brilliance Synchrotron Beamlines | Johannes | Wieser | ETH Zürich |
| 940 | Photoinduced redox activity in Ce-UiO-67 metal organic framework | Valeria | Finelli | University of Turin |
| 1005 | High-Pressure CO2 Photoreduction on Z-scheme hybrid materials | Gianguido | Ramis | Università degli Studi di Genova |
| 1366 | Supported Nanoalloys for Sustainable Hydrogen Production | Samuel | Balmer | University of Nottingham |
| 1466 | Immobilization of g-C3N4 in PVDF spheres for the photodegradation of cytostatic drugs | Sergio | Morales-Torres | University of Granada |
| 1467 | Metal catalysts supported on carbon-TiO2 composites for the photooxidation of ethylene under dynamic conditions | Sergio | Morales-Torres | University of Granada |

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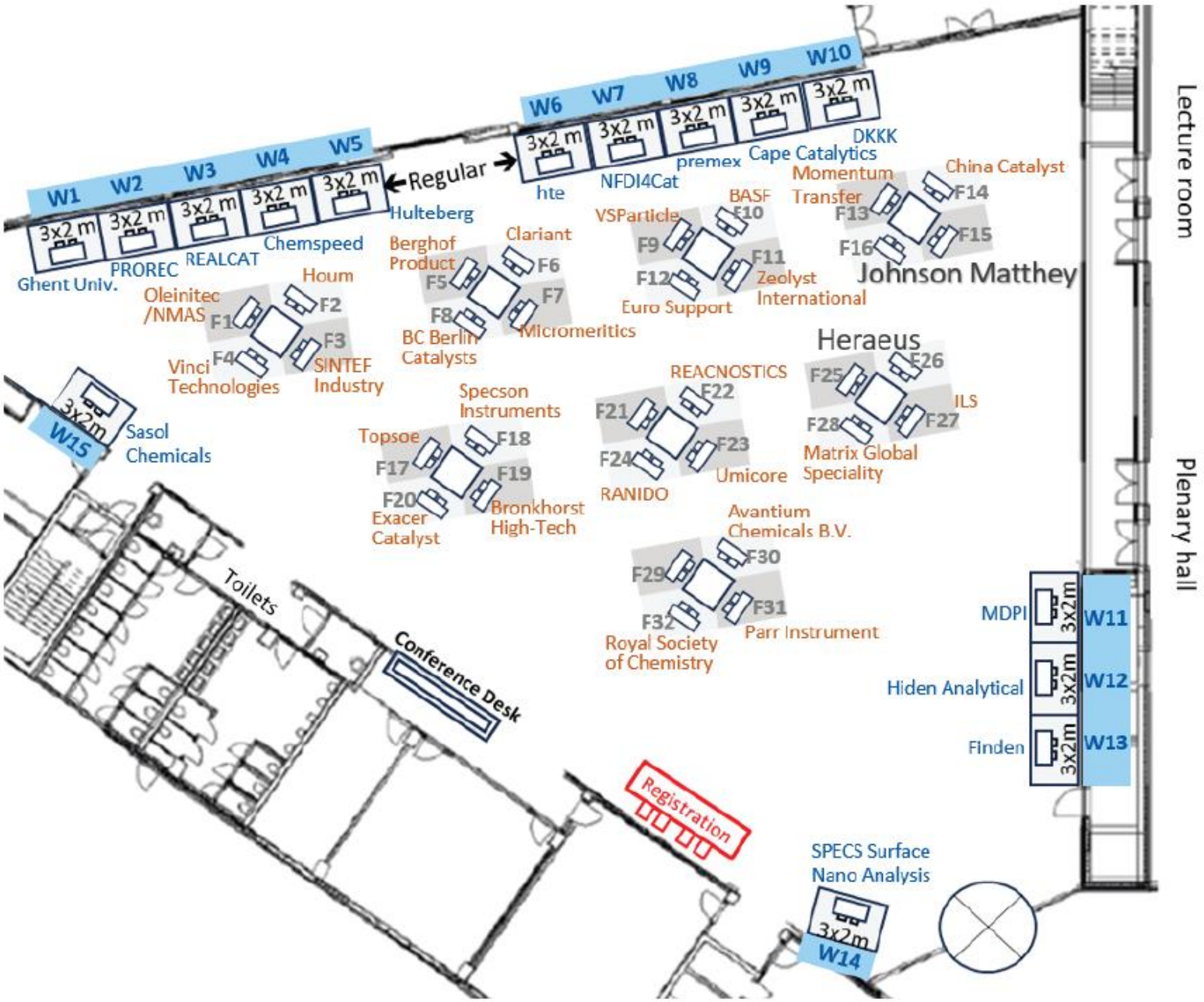


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