

## Poster Session II – Tuesday, 11 January 2022

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| 1  | Gereon Behrendt *   | Malachite- and Mcguinnessite-Based Catalyst Precursors for Methanol Synthesis from CO <sub>2</sub> -Rich Synthesis Gas                   |
| 2  | Alexey Boubnov *    | X-Ray Spectroscopy on Zinc in Methanol Catalysts: Using Theory to Understand Experimental Data   |
| 3  | Arik Beck *         | Following the structure of copper-zinc-alumina across the pressure gap in carbon dioxide hydrogenation                                   |
| 4  | Laura Barberis *    | Particle size effects for copper-catalyzed CO <sub>2</sub> hydrogenation to methanol   |
| 5  | Jakub Pazdera       | Impact of the Local Environment of Amines on the Activity for CO <sub>2</sub> Hydrogenation over Bifunctional Basic – Metallic Catalysts |
| 6  | Nienke Visser *     | Particle Size Effects of Ni/C Catalysts for High Pressure CO <sub>2</sub> Hydrogenation  |
| 7  | Tugce Beyazay *     | Hydrothermal CO <sub>2</sub> Fixation with Metal Nanoparticles   |
| 8  | Arne Nisters *      | Immobilisation of Molecular Catalysts on Phosphine-Based Hyper-Crosslinked Polymers for the Activation of CO <sub>2</sub>                |
| 9  | Jonas Wentrup       | Dynamic Operation of Fischer-Tropsch Synthesis for Power-to-Liquid Concepts  |
| 10 | Özgül Agbaba *      | Oligomerization of Acetylene to 1,3-Butadiene  |
| 11 | Lorena Baumgarten * | 5-(hydroxymethyl) furfural (HMF) as platform molecule from bio-based feedstocks for noble metal based selective oxidations               |

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| 12 | Alexander Bodach *  | Hydrogen Activation by Al-N Lewis Pairs and Mechanochemical Syntheses of Organometallic Compounds   |
| 13 | Charlotte Fritsch * | Development of a Ceramic Membrane Reactor for Coupled Propane Dehydration and Hydrogen Production   |
| 14 | Florian Hausen *    | Revealing Surface Transformations by operando Friction Force Microscopy   |
| 15 | Klara Sophia Kley * | Selective Hydrogenation of High Concentrated Acetylene with Mechanochemical Prepared Pd-Ag/ $\alpha$ -Al <sub>2</sub> O <sub>3</sub> as a Catalyst            |
| 16 | Kevin Kuhlmann *    | Reactive CFD and NMR: Bringing Research Areas Together for Detailed, Full-Field Validation  |
| 17 | Xiaoran Liu *       | Al-N Compounds for Hydrogen Activation and as Energetic Materials   |
| 18 | Fei Wang *          | 24/7 Dispatchable Solar Power System Powered by High Temperature Hydrogen Storage Materials   |
| 19 | Yonghyuk Lee        | Data-Efficient Iterative Training of Machine-Learning Gaussian Approximation Potentials for Surface Structure Determination of Living Heterogeneous Catalysts |
| 20 | Felix Studt         | Theoretical Studies on the Conversion of Methanol to Olefins Using Acidic Zeolites  |
| 21 | Daliborka Nikolić   | Analysis of Possible Improvement of Forced Periodically Operated Chemical Reactor with Methanol Synthesis Based on Nonlinear Frequency Response Method        |

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| <b>22</b> | Andrej Uhrich            | <b>Structure-Activity Correlations of CeO<sub>2</sub>-Promoted Cu-Co-Based Catalysts Applied in the CO Hydrogenation to Higher Alcohols</b> |
| <b>23</b> | Qingxin Yang             | <b>In situ reaction-induced and externally forced dynamics of Fe-based catalysts in CO<sub>2</sub> hydrogenation</b>                        |
| <b>24</b> | Shilong Chen             | <b>Synergistic Effect of Co and Fe Catalysts for Ammonia Decomposition</b>  |
| <b>25</b> | Marina Armengol Profitós | <b>Effect of Ruthenium Addition to CeO<sub>2</sub>-Supported Cobalt Catalyst for Dry Reforming of Methane</b>                               |
| <b>26</b> | Andrea Braga             | <b>Bimetallic NiFe/CeO<sub>2</sub> Catalysts for Methane Steam Reforming: In-Situ XPS and XRD Characterisation</b>                          |
| <b>27</b> | Henrik Kristoffersen     | <b>Local Order in AgAuCuPdPt High Entropy Alloy Surfaces</b>  |

**\* incl. Flash Talk**