



## SPP 2080 Status Meeting in Karlsruhe/ KIT

### Catalysts and reactors under dynamic conditions for energy storage and conversion

31.03.-02.04.2025

#### Program

#### Location info

Talks at **NTI lecture hall** (Building 30.10, ground floor)

**Engesserstraße 5, 76131 Karlsruhe**

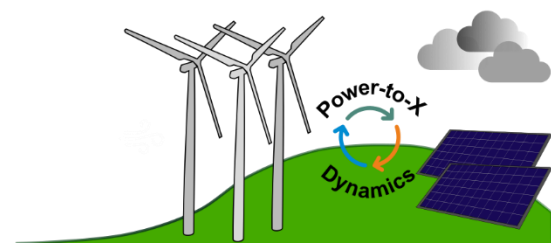
Poster sessions at **NTI foyer**

#### Additional info to the talks

Consortium talks: 20 min + 10 min Q&A (presented by PI's)

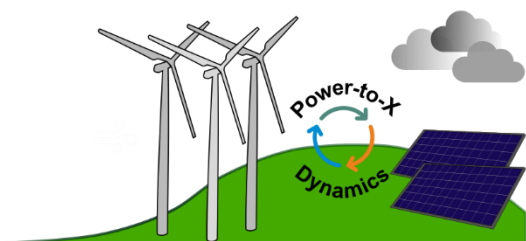
ECR talks: 20 min + 10 min Q&A

Alumni short lectures: 20 min (including Q&A)



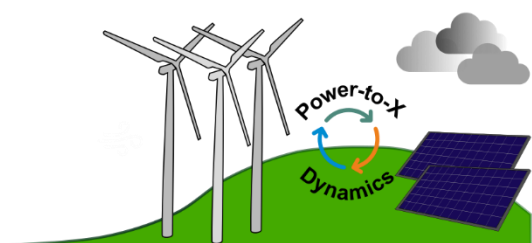


Time	Monday, 31.03.2025
11:00	<b>Registration</b> <i>(with coffee and snacks)</i>
13:00	<b>Opening &amp; Welcome</b> by SPP 2080 Board
13:30	Invited Lecture by <b>Prof. Petra de Jongh</b> (Utrecht University) <i>Recent insights into the mechanism of deactivation of supported metal catalysts</i>
14:15	<i>Coffee break</i>
14:45	<b>Consortium Talk</b> <i>Iron-based catalysts for CO<sub>2</sub> conversion into higher hydrocarbons under dynamic conditions</i> Kondratenko, Brückner, Pinna (Project 1)
15:15	<b>Consortium Talk</b> <i>Tackling irreversible catalyst deactivation: knowledge-driven design and operation of dynamic responsive methanation catalysts</i> Freund, Franken, Rubin (Project 3)
15:45	<b>Poster session #1</b> <i>with coffee break</i>
16:45	<b>SPP 2080 Alumni Short Lecture</b> <i>Structure-performance relationships of Ir-Ru electrodes for oxygen evolution during dynamic operation</i> Dr. Philipp Röse, KIT (1 <sup>st</sup> funding period)
17:05	<b>Consortium Talk</b> <i>Dynamically driven rutile-based acidic oxygen evolution electrocatalysts beyond stationary efficiency</i> Hess, Hofmann, Strasser (Project 7)
17:35	<i>Short break</i>
17:45	<b>Consortium Talk</b> Stabilization of the RuO <sub>2</sub> water splitting electrocatalyst under dynamic operating conditions by surface modification Hess, Over (Project 6)
18:15	<b>ECR Lecture</b> <i>Unlocking the Potential of Lithium Thiophosphate: Atomistic Insights on its Surface Reactivity</i> Dr. Hanna Türk, EPFL (“DynaKat” ECR Scholarship for Female Scientists Awardee)
18:45	<i>End of scientific program Day 1</i>
19:30	<b>SPP 2080 Dinner</b>
21:00	<i>End of program Day 1</i>



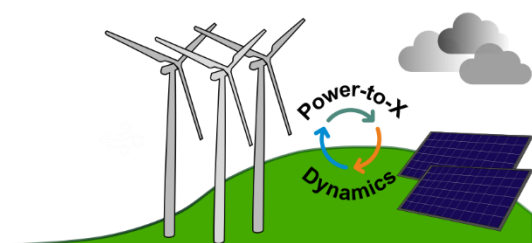


Time	Tuesday, 01.04.2025
09:00	Invited Lecture by <b>Prof. Núria López</b> (ICIQ) <i>Dynamics in electrochemical systems</i>
09:45	<b>Consortium Talk</b> <i>Design and in-depth investigation of nanostructured catalysts for CO<sub>2</sub> electroreduction</i> Roldán Cuenya, Magnussen (Project 8)
10:15	<b>Consortium Talk</b> <i>MOF-derived CO<sub>2</sub> methanation catalysts –Mechanisms, activity and stability during industrially relevant, dynamic dropout scenarios using hard X-ray techniques</i> Kleist, Bauer, Zobel (Project 4)
10:45	<i>Coffee break + Photo</i>
11:15	<b>SPP 2080 Alumni Short Lecture</b> <i>A Rationally Designed Catalyst-Reactor System for Load-Flexible CO<sub>2</sub> Methanation</i> Dr. Ronny T. Zimmermann, MPI Magdeburg (Alumni of 1 <sup>st</sup> funding period)
11:35	<b>Consortium Talk</b> <i>Analysis of forced periodic operation of chemical reactors considering methanol synthesis as an example</i> Paunic, Kienle, Seidel-Morgenstern (Project 2)
12:05	<b>Consortium Talk</b> <i>Surface dynamics of reducible-oxide promoted inverse Ni and Cu catalysts: New concepts for CO<sub>2</sub>-hydrogenation</i> Behrens, Grunwaldt, Studt (Project 9)
12:35	<i>Lunch buffet</i>
13:40	<b>SPP 2080 Alumni Short Lecture</b> <i>1s2p-RIXS as a new probe for Zn catalytic sites</i> Dr. Alexey Boubnov, KIT (Alumni of 1 <sup>st</sup> funding period)
14:00	<b>Consortium Talk</b> <i>Sorption-Enhanced CO<sub>2</sub> Hydrogenation to Methanol under Dynamic Reaction Conditions</i> Gläser, Jentys, Deutschmann (Project 10)
14:30	<b>ECR lecture</b> <i>Design of Adaptive Catalytic Systems in Hydrogenation Reactions</i> Dr. Yuyan Zhang, MPI CEC Mühlheim (“DynaKat” ECR Scholarship for Female Scientists Awardee)





Tuesday, 01.04.2025	
15:00	Poster session #2 with coffee break
16:25	<b>Consortium Talk</b> <i>Structural Evolution of a High-Temperature Oxygen Evolution Catalyst under Transient Working Conditions</i> Eichel, Lunkenbein, Scheurer (Project 12)
16:55	<b>ECR lecture</b> <i>Evaluation of oxygen evolution electrocatalysts: typical lab-scale vs industry-like conditions</i> Dr. Dulce M. Morales, University of Groningen (“DynaKat” ECR Scholarship for Female Scientists Awardee)
17:25	Short break
17:30	Invited Lecture by <b>Prof. Robert Schlögl</b> (Alexander von Humboldt Foundation, FHI Berlin) <i>Life of a Dead Material: the Dynamical Interfacial Catalyst</i>
18:15	End of program Day 2 followed by individual dinner





Time	Wednesday, 02.04.2025
09:00	<b>Invited Lecture by Dr. Wolfram Stichert (BASF SE)</b> <i>Catalyzing a Sustainable Future: Speeding up Innovations at BASF</i>
09:45	<b>Consortium Talk</b> <i>Degradation-control of perovskite oxide OER catalysts under dynamic operation conditions via advanced operando characterization and orbital-d-band engineering</i> Gunkel, Hausen, Kleiner (Project 5)
10:15	<i>Coffee Break</i>
10:45	<b>SPP 2080 Alumni Short Lecture</b> <i>Structure-dependent activity-stability relationships of Ir-Ru catalysts towards oxygen evolution electrocatalysis</i> Dr. Daniel Escalera López, FHI Berlin (Alumni of 1 <sup>st</sup> funding period)
11:05	<b>ECR lecture</b> <i>Unveiling Chemical and Morphological Structures of Working Electrocatalysts via Electron and X-ray Microscopy</i> Dr. Aram Yoon, FHI Berlin (“DynaKat” ECR Scholarship for Female Scientists Awardee)
11:35	<b>SPP 2080 Alumni Short Lecture</b> <i>From SPP to industry</i> Dr. Sebastian Weber, BASF (Alumni of 1 <sup>st</sup> funding period)
11:55	<i>Short break</i>
12:05	<b>Closing</b> by SPP 2080 Board with poster awards
13:00	<i>End of main status meeting</i>
14:00	<i>Start of Schools for Doctoral Researchers and ECR’s</i>

