

# **Metrology and Process Safety for Hydrogen Technologies & Applications**

**772. WE-Heraeus-Seminar**

**10 Oct - 13 Oct 2022**

**Physikzentrum**

**Bad Honnef/Germany**

**WILHELM UND ELSE  
HERAEUS-STIFTUNG**



# Program

## Sunday, 9 October 2022

17:00 – 20:00	Registration	
18:30 – 19:30	<i>BUFFET SUPPER</i>	
19:30	Joachim Ullrich	<b>Inaugural Lecture: Role and challenges in metrology and process safety in the energy transition</b>

## Monday, 10 October 2022

07:30	<i>BREAKFAST</i>	
08:20 – 08:30	Scientific Organizers	<b>Welcome</b>
08:30 – 09:30	Robert Schlögl	<b>Hydrogen a key element to a sustainable energy system</b>
09:30 – 10:30	Richard Hanke-Rauschenbach	<b>Hydrogen production by means of proton exchange membrane water electrolysis: An overview</b>
10:30 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 12:00	Aline Leon	<b>High-temperature steam electrolysis using solid oxide cells</b>
12:00 – 12:05	<b>Conference photo</b> (in front of the venue, main entrance)	
12:05	<i>LUNCH</i>	
13:30 – 16:00	<b>Poster Flash Presentation I &amp; Poster Session I</b>	

# Program

**Monday, 10 October 2022**

16:00 – 16:30    *COFFEE BREAK*

16:30 – 17:30    Ulrike Krewer                    **Model-assisted analysis and  
improvement of fuel cells and  
electrolysis: from surface to cell**

17:30 – 18:30    Robert Braun                    **Emerging Electrochemical Energy  
Systems for Flexible Energy Storage  
and Hydrogen Production**

18:30                    *HERAEUS DINNER at the Physikzentrum  
(cold & warm buffet, with complimentary drinks)*

20:00                    **Networking**

# Program

**Tuesday, 11 October 2022**

07:30	<i>BREAKFAST</i>	
08:30 – 09:30	Laurent Selle	<b>Flashback and other risks mitigation in hydrogenfueled gas turbines and boilers</b>
09:30 – 10:30	Thomas Jordan	<b>Safety of cryogenic hydrogen</b>
10:30 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 11:30	<i>Robert Schießl</i>	<b><i>Hydrogen production by multi-functional energy conversion in piston compressors</i></b>
11:30 – 12:00	<i>Rainer Kramer</i>	<b><i>Challenges and perspectives for hydrogen flow metrology</i></b>
12:00	<i>LUNCH</i>	
13:30 – 16:00	<b>Poster Flash Presentation II &amp; Poster Session II</b>	
16:00 – 16:30	<i>COFFEE BREAK</i>	
16:30 – 17:30	William Green	<b>Thermochemical Conversions for the Energy Transition</b>
17:30 – 18:30	Tina Kasper	<b>Reactivity of mixtures in conversion processes</b>
18:30 – 18:45	Stefan Jorda	<b>About the Wilhelm and Else Heraeus Foundation</b>
18:45	<i>DINNER</i>	
19:45	<b>Panel Discussion</b> moderated by Katharina Kohse-Höinghaus:  Peter Wasserscheid Tina Kasper Regis Bauwens Ulrike Krewer William Green	

# Program

Wednesday, 12 October 2022

07:30	<i>BREAKFAST</i>	
08:30 – 09:30	Peter Wasserscheid	<b>Chemical hydrogen storage - towards a hydrogen-free hydrogen economy</b>
09:30 – 10:30	Friedrich Dinkelacker	<b>Hydrogen-based fuels for advanced aviation combustion</b>
10:30 – 11:00	<i>COFFEE BREAK</i>	
11:00 –	<i>Michael Maiwald</i>	<b><i>Hydrogen process and plant safety</i></b>
– 12:00	<i>Michael Maiwald</i>	<b><i>Competence Centre H2Safety@BAM – Safeguarding the Quality Infrastructure in the Hydrogen Economy</i></b>
12:00	<i>LUNCH</i>	
13:30 – 18:30	<b>Excursion</b>	
18:30	<i>DINNER</i>	

# Program

**Thursday, 13 October 2022**

07:30	<i>BREAKFAST</i>	
08:30 – 09:30	Andrea Comandini	<b>Future challenges of hydrogen utilization for energy conversion</b>
09:30 – 10:30	Trygve Skjold	<b>Strength of knowledge in risk assessments for hydrogen systems in industry and society</b>
10:30 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 12:00	Regis Bauwens	<b>Hydrogen explosion hazards in industry and efforts to quantify and mitigate these risks</b>
12:00 – 12:10	Scientific organizers	<b>Closing remarks and Poster Awards</b>
12:10	<i>LUNCH</i>	

***End of the seminar / Departure***