

R&D on Solar Chemical Processes at the German Aerospace Center

by

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Abstract – The German Aerospace Center (DLR) has a long history of developing technologies for the conversion of chemicals by concentrated solar radiation. With the decision of Germany in 2020 to step out of coal combustion by 2038 latest DLR was assigned to support the structural change with an institute specialized on future fuels in the Rhenish Coal Mining Region. The Seminar will give an insight on the research covered by the institute and its facilities. Selected topics like solar calcination of lime, production of hydrogen, synthesis gas, and ammonia, or splitting of sulfuric acid will be discussed and the scale-up of technologies from laboratories via research demonstrators to industrial demonstrators will be presented. An outlook will be given on the perspective of a global roll-out of solar chemical processes.



Prof. Dr. rer. nat. Christian Sattler studied chemistry in Bonn, Germany and joined the German Aerospace Center DLR in 1997. He was guest scientist at Universidade Federal de Uberlândia, Brazil. From 2015 to 2022 he was professor for solar fuels production at TU Dresden, Germany, from 2021 to 2023 Divisional Board Member for Energy and Transport of DLR, and since 2021 he is Director of the DLR Institute of Future Fuels and professor for solar fuel production at RWTH Aachen University, Germany. He is Vice-President of the Hydrogen Europe Research association and as an ASME lifetime fellow member of the ASME Clean Energy Technology Group.
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