

ZGH Keynote Perspective Talk

April 24th 2024, 10 a.m. – 11.30 a.m. (CEST)
ZGH Seminar room 03-121 and online via ZOOM

Catalysis on High Entropy Alloys

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The green transition requires discovery and development of new catalyst materials for sustainable production of chemicals and fuels. However, it is difficult to predict a material, which might have a high catalytic activity for a given reaction, therefore the development of catalysts up until now has been driven mainly by trial and error. It would increase the pace of development, if we could predict a range of promising materials or if we at least could understand the limitations of catalysis. In this context high entropy alloys offer a chemical space of possible materials where the composition can be smoothly varied and where the properties also might vary in a seamless manner. This is good news for catalysis as such a smooth space is easier to explore to determine the interesting regions in composition space. Furthermore, the highly heterogeneous nature of a high entropy alloy surface reveals fundamental effects which are important for chemistry on surfaces in general but are overlooked in the classic mean field view on catalysis.

ZOOM Data:

<https://ruhr-uni-bochum.zoom.us/j/64463442384?pwd=OEtaejZBN1BXUUJIRkR0SzdmODUrQT09>

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Passwort: 919955



Biography

Prof. Dr. Jan Rossmeisl

Jan Rossmeisl is professor at Department of Chemistry at University of Copenhagen. Since 2020 he is heading a Danish National Research Foundation, Center of Excellence, Center for High Entropy Alloy Catalysis and in 2024 he received an ERC synergy grant (together with Alfred Ludwig and others). Jan is coauthor on more than 250 papers and on the Clarivate highly cited researchers list. Jan Rossmeisl is Fellow of the Royal Society of Chemistry.

His research interests include theoretical catalysis, electrocatalysis, high entropy materials and simulations of chemical systems.