

Overview Electrolysis Activities at The Hydrogen and Fuel Cell Center

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- **Jueves 9 de Abril a las 13 horas**
- **Aula: RFP 3er piso DQIAQF/INQUIMAE**
- **Streaming por el canal de YouTube del DQIAyQF**

Resumen

I will present an overview of the activities carried out at the Zentrum für Brennstoffzellentechnik (ZBT) in Duisburg, Germany, in the field of water electrolysis, with a particular focus on Proton Exchange Membrane (PEM) and Anion Exchange Membrane (AEM) technologies. The presentation will highlight our work on the development of platinum group metal (PGM)-free electrocatalysts for the oxygen evolution reaction (OER), addressing the challenge of replacing iridium under acidic PEM-WE conditions. As an example, we demonstrate a MnO₂-based catalyst enabled by a cation–anion co-doping strategy, which enhances activity and stability in acidic environments and shows promising performance in PEM electrolyzer operation. In addition, the talk will cover complementary research activities, including electrochemical characterization at both cell and stack levels, as well as stack design and modeling approaches aimed at understanding degradation mechanisms and predicting the lifetime of electrolysis systems.