

Invited
Speaker



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**Powering the depth: the singular challenges in
advancing submersible fuel cell propulsion
systems S0304**

TALK TITLE

Powering the depth: the singular challenges in advancing submersible fuel cell propulsion systems

ABOUT

Dr. Jessica Lück leads the department for air-independent propulsion at thyssenkrupp Marine Systems, where they focus on fuel cell-based propulsion systems for submarines and autonomous underwater vehicles. She oversees both an engineering department and a fuel cell production site. With a decade of experience in batteries and fuel cells, Jessica's expertise spans from fundamental research in academic environments to applied solutions in industry. Jessica holds a PhD in Physics from specializing in battery modeling at the German Aerospace Center. At the SSD, Jessica will delve into the intricacies of fuel cell systems in submarines, addressing their singular challenges and the innovative solutions required to optimize performance in this critical environment.

ABSTRACT

In this presentation, we explore the unique challenges and innovations in advancing submersible fuel cell propulsion systems, focusing on reliable and highly efficient fuel cells and safe hydrogen storage. Emphasizing the necessity for high reliability and availability due to the inaccessibility of underwater environments, we highlight a newly developed submarine fuel cell from Kiel. Leveraging decades of experience, these advanced systems demonstrate the potential to become a role model for integrating fuel cell technology into commercial shipping, paving the way for a sustainable maritime future.

