

RAeS Hamburg in cooperation with the DGLR, HAW, VDI, & ZAL invites you to a lecture

Enabling Cryogenic Hydrogen-Based CO₂-Free Air Transport

Dr Bobby Sethi, Associate Professor in

Gas Turbine Combustion and Environmental Impact, Cranfield University

Date:

Thursday 6 May 2021, 18:00 CEST

Online:

<http://purl.org/ProfScholz/zoom/2021-05-06>

Lecture followed by discussion
No registration required !
Online Zoom lecture



Greening civil aviation is key to our global future. So radical aircraft propulsion technologies must be developed urgently. Most likely to succeed in this grand challenge (promising full decarbonisation) are hydrogen (H₂) and electrification. H₂ is an inevitable solution for a fully sustainable aviation future, via hybrid/fuel cell technologies for short to medium range and H₂ combustion in gas turbines for longer missions.

This presentation will provide an overview of the ongoing EU H2020 “ENABLING Cryogenic Hydrogen-Based CO₂-free Air Transport” (ENABLEH2) project being coordinated by Cranfield University. The case for LH₂ for civil aviation will be discussed followed by the strategic importance and overall scope of ENABLEH2. A summary of the key achievements to date will be presented for the ENABLEH2 research on: Ultra-low NO_x hydrogen micromix combustion; Fuel system heat management – to exploit the formidable heat sink potential of LH₂; Safety and LH₂ Aircraft “Technology Evaluation”

Upon completion of his PhD, Bobby joined the School of Engineering as a Research Fellow and was promoted to Lecturer in 2012. In 2019 he became Deputy Director of Research, School of Aerospace, Transport & Manufacturing and in 2020 he also became Associate Professor in Gas Turbine Combustion and Environmental Impact. He is currently Overall Project Coordinator and CU Principal Investigator for the ~ €4M EU H2020 “ENABLING Cryogenic Hydrogen-Based CO₂-free Air Transport” ENABLEH2 project (20+ key EU civil aviation stakeholders – partners and industry advisory board members).

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