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Objectives

Current EU decarbonization strategies are promoting the use of green hydrogen across different sectors from energy power generation to transportation in automotive, marine and aerospace applications. In these applications, the hydrogen is converted directly into electricity by the use fuel cells, or converged into heat by combustion.

In the Center of Excellence in Combustion (CoEC), new methodologies for the efficient simulation of hydrogen flames are being developed using High-Performance Computing (HPC). As part of this initiative, CoEC researchers will share new findings and methodologies for the understanding and prediction of hydrogen combustion.

Within this frame, this training course is bringing together a number of experts to discuss the potential application of hydrogen across different sectors and provide the attendees with some practical aspects for the modelling and simulation of hydrogen combustion.

The course is divided into three main parts:

- Introduction to the hydrogen economy, production and storage.
- Theory and fundamentals of H2 combustion.
- Numerical methods and tools for post-processing and analysis.

CoEC researchers and external speakers representing different sectors are coming together to discuss the challenges and opportunities for the utilization of hydrogen in practical applications. The course includes lectures, open sessions and hands on activities.

Speakers

- Albert Tarancon (IREC)
- Olivier Joubert (CNRS-Universite Nantes)
- Ricardo Novella (CMT-UPV)
- Stephan Zurbach (SAFRAN)
- German Weisser (WinGD)
- Christoph Kortschik (Siemens Energy Global GmbH)
- Stephan Kruse (GMX)

- Heinz Pitsch (RWTH Aachen University)
- Benedicte Cuenot (CERFACS)
- Ananias Tomboulides (Aristotle University of Thessaloniki)
- Daniel Mira (Barcelona Supercomputing Center)
- Alessandro Parente (Université libre de Bruxelles)
- Temistocle Grenga (RWTH Aachen University)

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