



PRENORMATIVE RESEARCH FOR
SAFE USE OF LIQUID HYDROGEN

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Welcome to PRESLHY dissemination conference

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Instructions for participants



- Microphone and video camera options will be deactivated by the hosts at the start of the conference, given exception for questions (see following point). However, please ensure at any time that your microphone and video are off.
- Presentations will allow 5 minutes for questions. Please ask your questions to presenters using the chat option. If this is not possible (e.g. short available time to write up a question) please use the option “raise hand” 🙋 in the webinar controls.
- The hosts and chairs will be notified and you will be prompted to unmute yourself and verbally ask your question.
- The conference will be video recorded for the convenience of stakeholders and those who could not attend all conference sessions.

Please contact for any assistance during the conference:

via email: Donatella Cirrone, E: d.cirrone@ulster.ac.uk

via chat: Donatella Cirrone, Stella Giannissi, NCSR Demokritos Congress Centre

Conference programme (CEST time)

5 May 2021

Opening session. Chair: Thomas Jordan, KIT

09:00-09:10	Welcome by the project coordinator (Thomas Jordan, KIT)
09:10-09:40	FCH JU presentation (Alberto Garcia Hombrados, FCH JU)
09:40-10:10	PRESLHY project overview (Thomas Jordan, KIT)
10:10-10:30	LH ₂ solution for large-scale storage of hydrogen: a white paper (Thomas Jordan, KIT)
10:30-10:50	Critical analysis of the state of the art and research priorities (Simon Jallais, AL)
10:50-11:10	Coffee break

Session on LH₂ applications, part 1. Chair: Simon Jallais, AL

11:10-11:30	World's first ocean going liquid hydrogen carrier (Shoji Kamiya, Kawasaki Heavy Industries)
11:30-11:50	State of the art of LH ₂ installations and facilities (Laurence Bernard, AL)
11:50-12:10	LH ₂ application in heavy duty transport (Jens Franzen, Daimler)
12:10-12:30	LH ₂ application in cryogenic infrastructure (Ronald Dekker, Demaco)
12:30-13:30	Lunch break

Session on liquid hydrogen releases. Chair: Alexandros Venetsanos, NCSR

13:30-13:50	Bunkering scale LH ₂ releases on behalf of Norwegian Roads Administration: data and analyses (Daniel Allason, DNVGL)
13:50-14:10	Atmospheric dispersion of large scale liquid hydrogen releases (Jennifer Wen, UWAR)
14:10-14:30	Experimental study on formation and evaporation of LH ₂ pools (Andreas Friedrich, PS)
14:30-14:50	Rain out in large scale LH ₂ releases (Simon Coldrick, HSE)
14:50-15:10	CFD validation against large scale liquefied helium/hydrogen releases (Stella Giannissi, NCSR)
15:10-15:30	Coffee break

Session on cryo-compressed hydrogen releases. Chair: Alexandros Venetsanos, NCSR

15:30-15:50	Lab-scale dispersion of cryogenic hydrogen jets (Ethan Hecht, Sandia National Laboratories)
15:50-16:10	Effect of heat transfer through discharge line on parameters of cryogenic hydrogen releases (Donatella Cirrone, UU)
16:10-16:30	CFD benchmark on cryogenic hydrogen jets (Elena Vyazmina, AL)
16:30-16:50	High-pressure cryogenic hydrogen releases (Andreas Friedrich, PS)
16:50-17:10	An engineering tool for discharge calculations (Alexandros Venetsanos, NCSR)
17:10-17:30	Round table discussion and closure of Day 1 (Thomas Jordan, KIT)



For program see also

preslhy.eu/meetings/dissemination-conference/

Conference programme (CEST time)

6 May 2021

Session on LH₂ applications, part 2. Chair: Simon Jallais, AL

09:00-09:20 LH₂ coupling with superconductors (Walter Fietz, KIT)

Session on ignition of cryogenic hydrogen-air mixtures. Chair: Simon Coldrick, HSE

09:20-09:40 Ignition parameters of cryogenic hydrogen-air mixtures (Christophe Proust, INERIS)

09:40-10:00 Analytical and numerical determination of MIE by spark ignition (Donatella Cirrone, UU)

10:00-10:20 Electrostatic charge in multiphase hydrogen releases (Simon Coldrick, HSE)

10:20-10:40 Ignition and flame propagation over a LH₂ pool (Andreas Friedrich, PS)

10:40-11:00 Coffee break

Session on combustion of cryogenic hydrogen-air mixtures. Chair: Mike Kuznetsov, KIT

11:00-11:20 Results from modelling of BLEVE: model validation and preliminary calculations for SH2IFT experiments (Federico Ustolin, NTNU)
Planned experimental work on BLEVE: how will tests answer the questions arising from modelling?(Kees van Wingerden, GexCon)

11:20-11:40 Characterisation of high pressure cryogenic hydrogen jet fires (Andreas Friedrich, PS)

11:40-12:00 Thermal hazards from cryogenic hydrogen jet fires (Donatella Cirrone, UU)

12:00-12:20 The dynamics and flame characteristics of cryogenic hydrogen jets – a numerical study (Jennifer Wen)

12:20-12:40 Flame propagation regimes at cryogenic temperature (Mike Kuznetsov, KIT)

12:40-13:00 Effect of congestion/confinement on a cold plume combustion (Simon Coldrick, HSE)

13:00-14:00 Lunch break

Session on implementation and impact of the research outcomes. Chair: Donatella Cirrone, UU

14:00-14:20 Societal perception and barriers to hydrogen fuel application (Cyriac George, Institute of Transport Economics)

14:20-14:40 A chapter on LH₂ safety for the Handbook of Hydrogen Safety (Thomas Jordan, KIT - Karl Verfondern, Research Center Juelich)

14:40-15:00 Engineering correlations and tools for cryogenic hydrogen hazards assessment (Donatella Cirrone, UU)

15:00-15:20 Guidelines for safe design and operation of LH₂ infrastructure (Laurence Bernard, AL)

15:20-15:40 Coffee break

15:40-16:00 Analysis of current standards and regulations (Andrei Tchouvelev, AVT)

16:00-16:20 PRESLHY recommendations for RCS (Deborah Houssin, AL)

16:20-16:40 PWI "Safe use of LH₂ in non-industrial settings" for ISO/TC 197 (Thomas Jordan, KIT)

16:40-17:00 Round table discussion and concluding remarks (Thomas Jordan, KIT)

