



Hydrogen Research Event

Research poster overview

12/05
Antwerp Expo

1	The Hydrogen Technology Collaboration Programme (H2 TCP) of the International Energy Agency : how it works, what it does & how to join	Proost Joris	UCLouvain
2	The energy security implications of large-scale imports of sustainable fuels	Dejonghe Marie	Ghent University
3	TRILATE – Optimal cross-border energy infrastructure	Dadkhah Akhbar	Ghent University
4	Hydrogen policy impact model for industrial energy systems	Namazifard Negar	VITO
5	Alternative electrocatalytic strategies for alkaline-based water electrolyzers & fuel cells	Pahlavan Sohrab	imec
6	Towards carbon neutrality with green hydrogen production, fuel cell applications and dual fuel technology	De Tollenaere Steven	Vives University College
7	Electrocatalysis, fuel cells, electrodes for fuel cells, characterization of fuel cell elements and stacks	Nathalie JOB	ULiège
8	Safety of operations and logistics using GH2 and LH2	Vanlaere Joren	ULB/VUB

PRODUCTION

9	Atomic Layer Deposition for the study of catalysts for water splitting	Blomme Ruben	Ghent University
10	Nanostructured High Surface Area Electrodes for Water Electrolysis and CO2 reduction	Plankensteiner Nina	imec
11	Electrochemical performance of 3D printed electrodes for enhanced gas evacuation during alkaline water electrolysis	Rocha Fernando	UCLouvain
12	Chemical solution-based synthesis of earth-abundant electrocatalysts for PEM water electrolysis	Billiet Naomi	U Hasselt
13	Design, development, fabrication and characterization of a Proton Exchange Membrane Water Electrolyzer (PEM-WE) test bench	Paul Subir	U Hasselt
14	Solar hydrogen production from seawater using stabilized plasmonic photocatalysts	Dingenen Fons	Universiteit Antwerpen
15	Photo-electrochemical (PEC) water splitting for hydrogen generation	Jacops Robbe	UHasselt/Uantwerpen
16	Experimental study of catalysts and process designs for chemical synthesis using H2 and CO2	Lappa Foteini	ULiège/KULeuven
17	Production of H2(-derived) molecules	Martins de Brito Mendes Catarina	Ghent University
18	Next generation of conductive and stable electrocatalysts for CO2/H2 conversion and H2 production	Ghogare Digvijay	UHasselt/VITO
19	Simulation of a Fischer-Tropsch reactor for jet fuel production using Aspen Custom Modeler	Morales Alejandro	ULiège
20	CFD Simulation for Gas-Liquid Vortex Reactor Design and Optimization	Chen Siyuan	Ghent University
21	Intensifying blue hydrogen production via in situ CO2 utilisation	Singh Varun, Buelens Lukas	Ghent University
22	Process implications for electrifying ammonia production	Dechany Antoine	UCLouvain
23	Techno-Economic analysis and environmental life-cycle analysis for green H2 via solar-driven water splitting	Srettiwat Nattapol	UHasselt



STORAGE / TRANSPORT / DISTRIBUTION / CONVERSION

24	Hydrogen-induced degradation of pipeline steels	Cauwels Margo	Ghent University
25	Hydrogen Embrittlement in High-Strength Low-Alloy Steels	De Pue Laura, Depraetere Robin	Ghent University
26	Increasing the resistance to hydrogen embrittlement of martensitic steels by inventive grain boundary engineering	Pinson Margot	Ghent University
27	Impact of hydrogen on mechanical properties of 304L stainless steel	Claeys Lisa	Ghent University
28	Micro-scale imaging of porous materials for hydrogen storage in geological reservoirs	Kalyoncu Gulce	Ghent University
29	Experimental and numerical investigation of salt precipitation due to underground energy storage (Hydrogen, compressed air, etc.) processes.	Borji Mostafa	Ghent University
30	Study of low cost compressors for GH ₂ storage at high pressure	Jottrand Samuel	ULB
31	Designing of an Energy Efficient Electrified Packed Bed Reactor for Enhanced H ₂ Release from LOHCs Using CFD	Pourfallah Hesam	Universiteit Antwerpen
32	CFD Study into Enhanced Degassing During Dehydrogenation of Liquid Organic Hydrogen Carriers	Perreault Patrice	Universiteit Antwerpen
33	Experimental analysis of heat and mass transfer in non-isothermal sloshing using a model-based inverse method	Marques Pedro Afonso	von Karman Institute for Fluid Dynamics
34	Advanced characterization of densified cryogenic hydrogen	Vallisa Lorenzo	von Karman Institute for Fluid Dynamics
35	Hydrogen storage in clathrates: Summary of the Arclath Moonshot project	Kummamuru Nithin Bharadwaj	Universiteit Antwerpen
36	Hydrogen storage in confined clathrate hydrates	Hanssens Lucas	KULeuven
37	ARCLATH: Artificial Clathrates for Sustainable Hydrogen Storage	Watson Geert	Ghent University
38	Computationally modelling hydrogen storage and transport in methane clathrates	Lamaire Aran	Ghent University
39	Storage of gases in clathrate structures	Beckwée Emile	VUB
40	Fluidised Bed Reactor for Hydrogen Storage Applications in Hydrates	Dhawan Heena	Universiteit Antwerpen

USAGE

41	Electrofuels for internal combustion engines	Suijs Ward	Ghent University
42	An experimental and numerical investigation of CO ₂ dilute, oxy-fuel combustion in a reciprocating engine using mixtures of natural gas and hydrogen	Daese Mauro	KULeuven
43	H ₂ micro gas turbines	Devriese Cedric	UMONS
44	Humidification towards flashback prevention in an original H ₂ fueled micro Gas Turbine — 0D/1D predeterminations and LES validation	De Paepe Ward	UMONS
45	Impact of H ₂ , H ₂ -based fuels and their mixtures on the thermodynamic performances of gas turbines of different size	Mendoza Morales Maria	UMONS
46	Towards fuel-flexible industrial combustion: investigation of the combustion performances of H ₂ and H ₂ -based fuels	Stendardo Elisa	VUB/UMONS
47	Optimized carbon supports for durable and high performance PEMFC electrodes	Carré Bryan	ULiège
48	Platinum-based catalysts for Proton Exchange Membrane Fuel Cells	Grzelak Aleksandra	ULiège
49	Characterization and Modeling of Electrochemical Energy Systems	Mus Jorben	KULeuven
50	The influence of H ₂ partial pressure on biogenic palladium nanoparticle production assessed by single-cell ICP-mass spectrometry	Law Cindy	Ghent University
51	Electrifying cement and lime production with in-situ generation of highly concentrated gaseous CO ₂ /H ₂ streams	Rouxhet Rémy	UCLouvain