



Advanced Research Workshop (ARW)

“Progress in safe indoor use of fuel cells and hydrogen systems” (12 September 2013)

Organised by the HyIndoor project (<http://www.hyindoor.eu/>) under the auspices of the International Association for Hydrogen Safety (www.hysafe.info)

Venue: Fuel Cell and Hydrogen Joint Undertaking: Avenue Toison d'Or 56-60, B1049 Brussels (7th floor)

Tentative programme

08.30 – 08.45 Registration

08.45 – 08.50 Opening

Session 1 “Dispersion and accumulation of hydrogen indoors” (Chair: Dr Gilles BERNARD-MICHEL, CEA)

08.50 – 09.10 Regimes of hydrogen dispersion in closed space (I Kirillov, Russia)

09.10 – 09.30 Passive ventilation of enclosure with one vent and the uniformity criterion (V Molkov, UK)

09.30 – 09.50 Dispersion and accumulation in enclosure with one or two vents: engineering point of view (S Jallais, France)

09.50 – 10.10 Progress in experimental studies of hydrogen dispersion indoors at HSL (P Hooker, UK)

10.10 – 10.30 Progress in experimental studies of hydrogen dispersion indoors at CEA (G Bernard-Michel, France)

10.30 – 10.50 Hydrogen release and deflagration experiments within a scaled, ventilated warehouse (I Ekoto, USA)

10.50 – 11.10 HyIndoor CFD benchmark on hydrogen dispersion in Gamelan enclosure (A Venetsanos, Greece)

11.10 – 11.30 Coffee

11.30 – 12.00 Round-table discussion on unignited release and dispersion (questions to be answered)

Session 2 “Vented deflagrations” (Chair: Dr Alexei KOTCHOURKO, KIT)

12.00 – 12.25 Hydrogen vented deflagration at FM Global: tests and modelling (R Bauwens, S Dorofeev, USA)

12.25 – 12.50 Hydrogen vented deflagration at KIT: tests and modelling (A Kotchourko, M Kuznetsov, Germany)

12.50 – 13.05 Simulation of hydrogen-air deflagrations within ventilated warehouse enclosures (I Ekoto, USA)

13.05 – 13.20 Effect of Rayleigh-Taylor instability on vented deflagrations (J Keenan, D Makarov, V Molkov, UK)

13.20 – 13.40 Round-table discussion on vented deflagrations (questions to be answered)

13.40 – 14.30 Lunch

Session 3 “Jet fires in confined space” (Chair: Dr Sile BRENNAN, UU)

14.30 - 14.50 Hydrocarbon fires in confined space: experiments and simulations (A Chamchin, UK)

14.50 – 15.10 Regularities of hydrogen jet fire indoors: numerical experiments (V Molkov, V Shentsov, S Brennan, D Makarov, UK)

15.10 – 15.30 Recent progress in experimental studies of indoor hydrogen flames (A Kotchourko, M Kuznetsov, Germany)

15.30 – 15.50 Round-table discussion on jet fires (questions to be answered)

15.50 – 16.10 Coffee

Session 4 “Towards safety strategies and engineering solutions” (Chair: Dr Beatrice L'Hostis, AL)

16.10 – 16.35 Introduction to hydrogen safety strategies (B L'Hostis, France)

16.35 – 17.00 Safety strategy for exploiting hydrogen in mines (A Tchouvelev, Canada)

17.00 – 17.25 Towards safety strategies for indoor use of hydrogen (D Makarov, V Molkov, B Chernyavsky, UK)

17.25 – 18.00 Round-table discussion

18.00 Cocktail reception sponsored by the International Association for Hydrogen Safety (IA HySafe, www.hysafe.info)

Information for potential participants: Number of places to this thematic workshop is limited by 50 participants due to the meeting room capacity. If you are willing to attend the workshop please register at your earliest convenience at www.hyindoor.eu – WORKSHOPS and inform Prof. Vladimir Molkov by email: v.molkov@ulster.ac.uk. There will be no registration fee but attendance but the registrations will be processed on first come first served basis taking into account involvement and/or professional interest in hydrogen safety engineering.