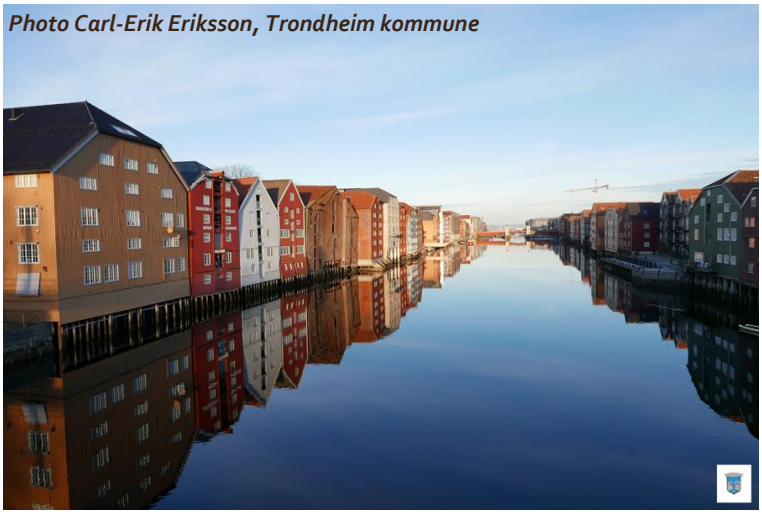


*Photo Carl-Erik Eriksson, Trondheim kommune*

## WORKSHOP 6-7 JUNE 2017

# HYDROGEN FUEL QUALITY ASSURANCE FOR PEM FUEL CELLS

### 3rd HYCORA workshop

Hydrogen quality assurance is a guarantor for PEM fuel cell life; thus, key to the success of hydrogen as an energy carrier.

Identifying critical needs to develop nozzle sampling methods and hydrogen contaminant analysis tools through data collection and modelling to guide research on impact on PEM fuel cells of selected hydrogen fuel contaminants by qualitative and quantitative risk assessment is in the focus of the HyCoRa project funded by FCH-JU.

The workshop will combine R&D and industry in the whole value chain, from hydrogen production via distribution/dispensing to end use, to discuss relevant hydrogen fuel quality topics.

Presentations will also summarize the final research results of the HyCora project to steer panel discussion eventually to allow OEM proving feedback and their views.

**WORKSHOP OBJECTIVES:**

**HYDROGEN FUEL QUALITY ASSURANCE**

**RISK ASSESSMENT MODEL**

**OEM FEEDBACK**

**HYDROGEN FUEL SAMPLING**

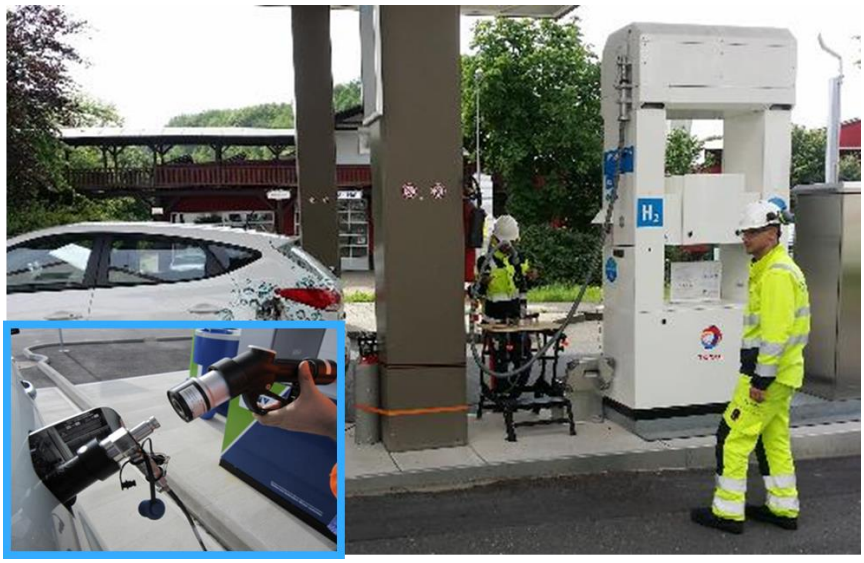
**CONTAMINANT ANALYSIS**

**VENUE:**

**TRONDHEIM, NORWAY**

# AGENDA - Day 1

| 6 June 2017 | | Speaker |
|---|---|---|
| 11:00-12:00 | *Tour SINTEF H2 labs* | |
| | | |
| 13:00 | *Arrival, registration and light lunch* | |
| 13:30-13:40 | Welcome & opening remarks | *Anders Ødegård, SINTEF* |
| 13:40-14:00 | HyCoRA project objectives, scope and brief summary of results | *Jaana Viitakangas, VTT* |
| 14:00-14:20 | The importance of fuel quality | *Felix Blank, Daimler* |
| 14:20-14:40 | Impurity sourcing from HRS | *Bjørn Gregert Halvorsen, NEL Hydrogen* |
| 14:40-15:10 | Break | |
| 15:10-15:30 | HYCORA impurity measurements: HCHO and HCOOH | *Jaana Viitakangas, VTT* |
| 15:30-15:50 | HYCORA risk assessment model | *Jari Ihonen, VTT* |
| 15:50-16:10 | Impact of CO and H2S on single cell and stack performance | *Sylvie Escribano, CEA* |
| 16:10-17:00 | Discussions first day | All |
| 20:00 | Dinner | |



# Day 2

| 7 June 2017 | | Speaker |
|---|---|---|
| 09:00-09:20 | Results from 3rd HyCoRA sampling campaign | *Ole Kjos, SINTEF* |
| 09:20-09:40 | Summary of HRS sampling and analysis in HyCoRa | *Thor A. Aarhaug, SINTEF* |
| 09:40-10:00 | Hydrogen fuel quality activities in Germany | *Christian Spitta, ZBT GmbH* |
| 10:00-10:30 | Break | |
| 10:30-10:50 | Analytical methods for hydrogen fuel QC | *Thomas Baquart, NPL* |
| 10:50-11:10 | Impurities from hydrogen production | *Bruno Gozlan, Air Liquide* |
| 11:10-11:30 | $H_2$-quality monitor | *Günther Schlumberger, ZSW* |
| 11:30-11:50 | Fuel quality standard revision | *Thor A. Aarhaug, SINTEF* |
| 11:50-13:00 | Lunch | |
| 13:00-14:00 | Discussion, feedback & recommendations | *All* |
| 14:00 | Closing remarks | |
| | End of workshop | |

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