



Welcome to

International Symposium on

DIAGNOSTICS TOOLS FOR FUEL CELL TECHNOLOGIES

- revealing the state of health of fuel cells

Mid-summer, June 23-24 2009 in Trondheim, Norway



Photo: © Trondheim kommune

As part of the IPHE-acknowledged EU-project FCTEDI *, we would like to invite you to an international symposium on diagnostics tools for fuel cell technologies. The symposium aims at gathering researchers and developers from the fuel cell area and technical experts from measurement equipment manufacturers to:

- *discuss today's available diagnostics tools for PEMFCs SOFCs and MCFCs*
- *share knowledge on state-of-the-art experimental methods and*
- *identify requirements for further development of equipment and methods*

The symposium will thus provide for enhanced insight into fuel cell degradation issues and how to counteract these to ensure longer and more reliable fuel cell lifetime.

Three particular topics will be focussed in this symposium:

- **PEMFC online diagnostics**
- **SOFC materials and micro-structural issues**
- **MCFC diagnostics - experimental and real case issues**

* FCTEDI - Fuel Cell Testing and Dissemination, EU-project 2007-2009.

Scope of the symposium

The assessment of a fuel cell's "state of health" as well as the prediction of potential cell/stack/system failures requires application of advanced diagnostic methods during operation. Online diagnostic techniques capable of monitoring cell characteristics under real fuel cell operation conditions without disturbing operation are often costly as well as complicated and time consuming to incorporate and utilize. Such *in situ* measurements are, however, crucial to provide insight into dynamic changes in cell characteristics. Supplemented by post-mortem investigations revealing average changes that have taken place over the duration of the test, the *state of health* may be revealed and the degradation processes unveiled. Careful interpretation and synthesis of experimental results may form the basis for development of robust degradation mitigation strategies and pin-point the need for new novel and more reliable online and post mortem test methods for further development and improved performance of fuel cell system technology.

Agenda of the symposium

The symposium will be comprised of plenary and parallel sessions with oral presentations by invited speakers as well as submitted contributions. Key topics and themes include:

- In-situ (online) techniques* – electrochemical, chemical analysis
- Ex-situ techniques* – chemical analysis, microscopic, spectroscopic, stack monitoring
- Modelling/data processing* – data interpretation

Additionally, a poster exhibition will be organised offering the opportunity to present scientific work related to PEMFC, SOFC and MCFC diagnostics tools. At the exhibition site it will also be possible for equipment manufactures to present relevant products. The agenda will be regularly updated and available at the symposium website www.sintef.no/fc-tools and at the FCTEDI website www.fctedi.eu.

Who should attend?

Students and PhD-students, researchers, test equipment manufacturers and fuel cell system developers are invited to submit abstracts for poster or oral presentation.

Call for abstracts

Contributions are highly appreciated, and abstracts can be submitted

by email to fc-tools@sintef.no or by fax to +47 7359 1105 Attn.: Anders Ødegård.

Please limit abstracts to 400 words (max 1 A4 page including figures) indicating preferred presentation form (oral / poster) and submit no later than January 31st 2009.

Deadlines

Abstracts for oral and poster presentations:	Jan. 31 st 2009
Acceptance of contributions:	Feb. 28 th 2009
Early bird registration (reduced rate €350):	Jan. 31 st 2009
Registration (normal rate €400):	May 31 st 2009

Venue

The symposium will take place in Trondheim, Norway, at Ringve Estate, which houses Norway's National museum of music and musical instruments. Trondheim lies close to the Polar circle and around Mid-summer (June 23rd) it never gets dark, even at night! More information about the city and Ringve Estate can be found at www.trondheim.com and www.ringve.no/English/



Ringve Estate



Britannia Hotel

Trondheim Airport Vaernes is about 25 minutes from the city centre with airport bus or taxi.

Hotel rooms have been reserved at Britannia Hotel, www.britannia.no, with the following rates:

Single room 1295 NOK/night
Double room 1495 NOK/night

Please use the booking reference **232960** and either call +47 7380 0896, e-mail booking@britannia.no or fax +47 7380 0885 the hotel for reservations.

Registration

Registration form will become available at www.sintef.no/fc-tools soon!

The following participation fee includes lunch and refreshments at the venue site both days and one organised evening dinner on Tuesday.

- Early-bird fee (before January 31st 2009) € 350
- Students € 250*
- Regular registration (after January 31st 2009) € 400

Due to limited capacity we encourage all to register early!

*Students must provide proof of enrolment from their supervisor upon registration.



Organising committee:

Anders Ødegård, SINTEF, Norway
Steffen Møller-Holst, SINTEF, Norway
George Tsotridis, European Commission, DG JRC-IE
Ludwig Jörissen, ZSW, Germany
Angelo Moreno, ENEA, Italy

Contact information:

Anders Ødegård

Email: anders.odegard@sintef.no

Phone: +47 9435 6595

Fax: +47 7359 1105

Email: fc-tools@sintef.no

Web: www.sintef.no/fc-tools

Georgios Tsotridis

Email: georgios.tsotridis@jrc.nl

Phone: + 31 22456 5122

Social events

The evening dinner on Mid-summer Eve (Tuesday June 23rd) will be arranged at Lian Restaurant, situated in the green areas of Bymarka. Mid-summer Eve is the brightest day (night) of the year, and is celebrated by burning of a large fire. In 2009, summer solstice is on June 21st, but in Norway St. Hans is celebrated in the 23rd every year. We will take the historical tram from the city centre to Lian and enjoy an aperitif on our way.



Mid-summer fire (St. Hans bål) at Lian.

If you are interested in further adventures in combination with the symposium, please don't hesitate to contact us.