



Workshop Series: Fuel Cell Systems
11th Workshop 2018

Progress in Fuel Cell Systems

Novotel Brugge Centrum
29/30th May 2018, Brugge (Bruges), Belgium

UNIVERSITY OF
BIRMINGHAM



Brief Overview of the workshop:

The current workshop will be the eleventh in the series that started off with the LargeSOFC project in 2008.

As usual we are looking at fuel cell systems – somewhat with an emphasis on solid oxide, other high temperature technology, and stationary applications – but not exclusively so. As time goes by, interests broaden and in the past we have also had MCFC and PEFC technology on board, including SOFC applications for aircraft.

Nevertheless, the common theme is fuel cell systems and their components. One of the main reasons being that involvement of companies manufacturing and delivering system Balance of Plant is low in the fuel cell scene and we want to offer a platform for exchanging information and experiences between the system integrators, operators, and BoP suppliers.

The 2018 workshop will especially invite the following topics:

- high temperature electrolysis and reversible SOFC,
- co-electrolysis and synthetic fuels,
- SOFC system scale-up, and
- fuel cell system components.

But as usual, the workshop is also open to any other interesting topics around fuel cell systems, balance of plant, market introduction etc.

Again, the workshop will be part of our activities in EERA, the European Energy Research Area, that is trying to establish a low TRL research programme to underpin the activities of the FCH JU on a European scale.

The reversible SOFC session will be hosted by the EU project BALANCE.



Tuesday , 29 May 2018	
8:30 – 8:55	<i>Registration and uploading of presentations</i>
FC System Technical Details	
9:00 – 9:30	SOFC- IC Engine systems for marine applications- <i>Jelle Stam., TU Delft</i>
9:30 – 10:00	Marine Applications of Fuel Cell Systems - <i>Thomas Lamberti, University of Genoa</i>
10:00 – 10:30	Economic and business opportunities of biogas-fed SOFC plants – <i>Marta Gandiglio, Politecnico Torino.</i>
10:30 – 11:00	<i>Coffee Break</i>
11:00– 11:30	Transient large SOC module simulation and experimental setup of a pressurized 30 kW SOFC system - <i>Marius Tomberg, DLR</i>
High Temperature Electrolysis & reversible SOFC	
11:30 – 12:00	rSOC Testing – <i>Roland Peters, FZ Jülich</i>
12:00 – 12:30	100+ kW rSOC Systems - Operation Experience, Learnings and Future Perspective – <i>Konstantin Schwarze, SunFire</i>
12:30 – 14:00	<i>Lunch</i>
14:00 – 14:30	rSOC developments and testing at CEA – <i>Jerome Aicart, CEA</i>
Heat Exchangers	
14:30 – 15:00	Heat Exchangers for SOFC Systems: Integration, Performance and Cost Benefits - <i>Yves De Vos, BOSAL</i>
15:00 – 15:30	<i>Coffee break</i>
15:30 – 16:00	Measuring chromium release from cathode heat exchangers – <i>Kun Zhang, University of Birmingham</i>
16:30	<i>Tour of town</i>
18:00	<i>Dinner at restaurant</i>

Wednesday , 30 May 2018	
8:30 – 8:55	<i>Registration and uploading of presentations</i>
Syngas, synthetic fuels and European energy markets	
9:00 – 9:30	Synthetic Fuels and Biomass – EERA and SET-Plan Activities – <i>Peter Holtappels, DTU</i>
9:30 – 10:00	Syngas Production from Biomass and Renewable Electricity – <i>Robert Steinberger-Wilckens, University of Birmingham</i>
10:00 – 10:30	Hydrogen Economy or Fuel Variety – a discussion on the future of the European energy markets.
10:30 – 11:00	<i>Coffee break</i>

Upscaling and industrial applications	
11:00 - 11:30	Application of high pressure injection molding (HPIM) of ceramics in SOC technology - <i>Michal Wierzbicki, IEN.</i>
11:30 - 12:00	<i>end-of-meeting discussion</i> Project brokerage: FCH JU 2017 programme, EERA and other research, demonstration, and funding opportunities and interactions
12:00 – 13:30	<i>Lunch</i>
13:30	Coffee and End of Meeting

Registration Details:

To register please use the online shop on the website (www.brugesfcworkshop.eu) or return the attached registration form to John Hooper either by e-mail to j.c.hooper@bham.ac.uk or by fax +44 121 414 5324

The meeting fee is £295 including all meals and coffee breaks on 29/30 May and a special Flemish dinner on 29th May 2018.

Presenters will receive a discount of 50% (making the fee £145).

In case of questions, please ring +44 121 415 8169 (R. Steinberger-Wilckens) or +44 121 414 5275 (John Hooper).

Hotel rooms have to be booked (and paid) directly with the **NOVOTEL Hotel Brugge Centrum**. Find a form for the hotel attached.

In case of problems with bookings, we can send a list of other recommended hotels or help with finding accommodation.

WiFi access is possible within the meeting room for free.

In case of questions about the hotel please phone Tel. +32 50 33 75 33 (NOVOTEL, Marianne Van Genneken)

The address of the Novotel is :
Katelijnestraat 65B, B-8000 Brugge

which is quite near to the famous Begijnhof (Beguinage), the Onze Lieve Vrouw church (Michelangelo Madonna) and not far from the town centre.



Travelling to Brugge

By Air:

To Brussels Airport, from there take a train into Brussels (they run every 10 to 20 minutes, travel approx. 30 minutes). You can change at any of the stations Bruxelles Nord, Central or Midi. From there take an IC train to Bruges (directions of Oostende or Knokke) which runs every half hour around the full and half hour (depending on the station you change at). Travel time to Bruges is 1 hour.

Every hour (xx:03 h) one train runs from the airport directly to Bruges (destination: Knokke). Check here for the timetable: <http://www.belgianrail.be> (then go to 'Stations & Trains', travel time just under 90 minutes).

From station into town: see below.

By train:

most connections will run through Brussels, the fast trains only through Brussels-Midi (Zuid). From there take an IC train to Bruges (directions of Oostende, Blankenberge or Knokke) which run every half hour around the full and half hour from Brussels (+/- 5 minutes, depending on the Brussels station you change at). Travel time to Bruges is 1 hour.

Currently there are considerable diversions of bus services. So I propose the best thing to do is walk (see below) or take a taxi.

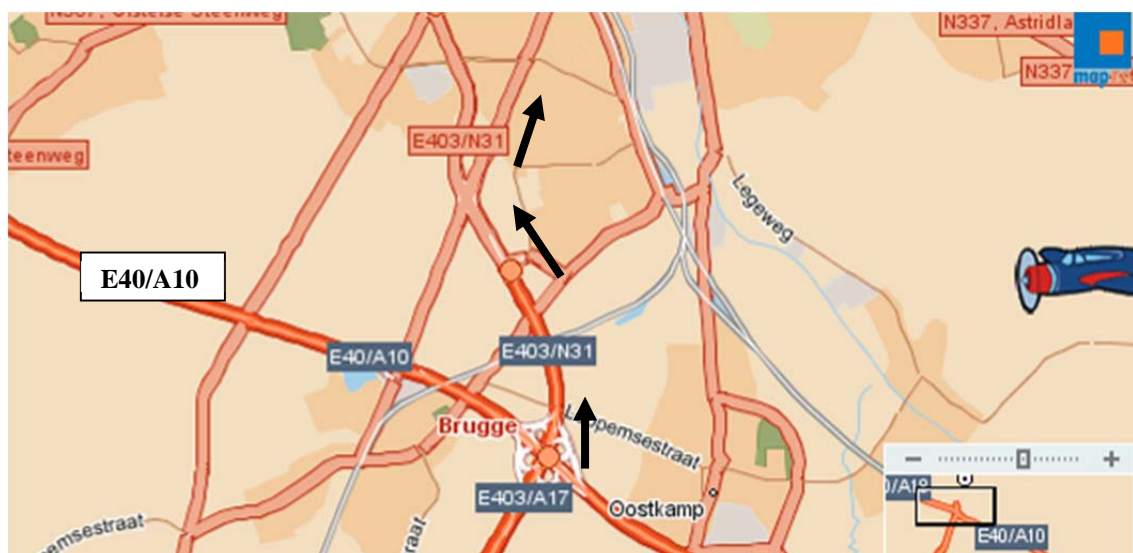
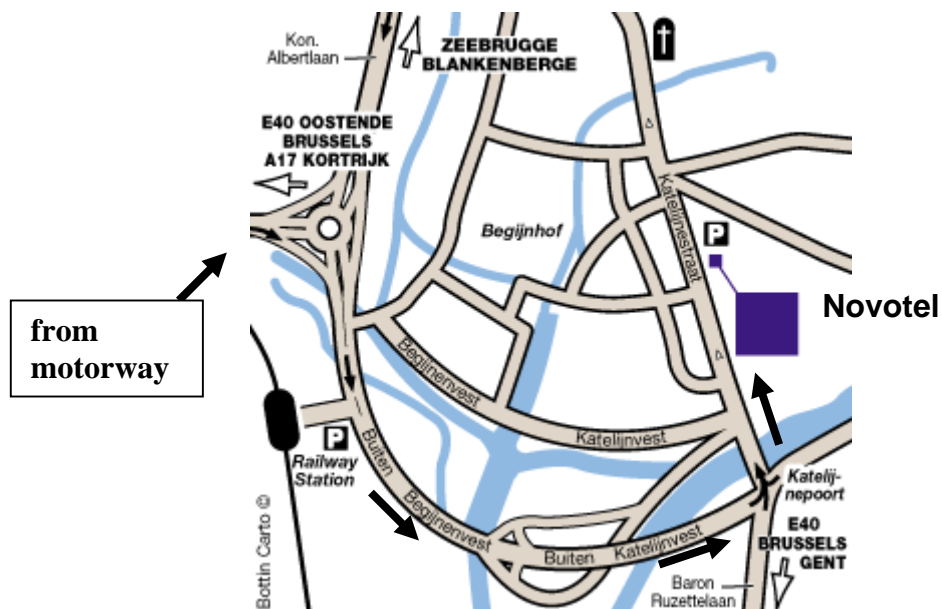
You can walk (see map below) by directly crossing the street at the station, take the direction of the Minnewater, pass the Begijnhof and walk through to the Katelijnestraat. You will find yourself near the hotel. 15 to 20 Minutes on foot (with luggage, black route). In good weather and with light luggage you can also follow the red arrows through more park-like terrain.

By car:

take the motorway via Brussels to Oostende (E40/A10) and leave at **Exit No. 8** (should be labelled 'Torhout/Brugge/St. Michiels') (see map below). Follow the main road to a large crossing and then do not drive straight on, as signs may indicate, but turn right and follow the old main road directly into town (direction St. Michiels). Carry straight on until you reach the rear of the station, follow the road under the railway bridge and at the next traffic roundabout leave next possibility right. You then pass the front of the station. Drive over a flyover and after that immediately turn left into the Kathelijnestraat (across a canal bridge). A parking facility is located next to the hotel.

From the North (Antwerp, Netherlands etc.) follow the motorway (E17/A14) to Gent. There take the motorway to Oostende and proceed as above. From the South pass Lille (Flandre) and take the E403/A17 to Brugge/Bruges.





REGISTRATION FORM

Bruges Fuel Cell Systems Workshop

Novotel Brugge Centrum
29 / 30 May 2018, Bruges, Belgium

Title*	Mrs <input type="checkbox"/> Mr <input type="checkbox"/> Dr <input type="checkbox"/> Prof <input type="checkbox"/>
Family name*	
First name*	
University / Institution / Company*	
P.O. Box or Street Address*	
Postal Code*	
City*	
Country*	
Phone*	
Fax	
E-mail*	
Presenter*	Yes (reduced fee £145) <input type="checkbox"/> No (full fee £295) <input type="checkbox"/>

*Fields marked with an asterisk * must be filled in*

PLEASE RETURN BY E-MAIL OR FAX TO

John Hooper at j.c.hooper@bham.ac.uk or +44 121 414 5324

You will then receive a confirmation, an invoice for the meeting fee or instructions how to book and pay via the University of Birmingham e-shop

Or use the 'shop' registration web page at:

<https://shop.bham.ac.uk/conferences-and-events/college-of-engineering-physical-sciences/school-of-chemical-engineering/progress-in-fuel-cell-systems-11th-workshop-2018>

Novotel Brugge Centrum

Reservation Request

Fuel Cell workshop 2018 – 29-30/05/2018

In order to benefit this special rate, please complete the requested information and send it by email to:

H1033-SB@accor.com

Reservation possible as long as rooms are available (first reserved-first served).

Rooms are blocked on 28-30/05/2018.

Latest Reservation date: 27/04/2018

Name: [Click here to enter text.](#)

Company address (if needed): [Click here to enter text.](#)

Telephone number: [Click here to enter text.](#)

E-mail: [Click here to enter text.](#)

Check-in date: [Click here to enter a date.](#)

Check-out date: [Click here to enter a date.](#)

Requested room:

☐ Single room, breakfast included (per night) at 120 Euros + City tax 2.12 Euros p.p.p.n.

☐ Double room, breakfast included (per night) at 140 Euros + City tax 2.12 Euros p.p.p.n.

Name second person: [Click here to enter text.](#)

Extra nights can be booked upon availability, at the same congress rate - except for an overnight stay on a Saturday, where a supplement of € 20.00 / night is requested upon proposed room rates for the congress.

Payment: on site on check-out date.

Free cancellation is possible until 7 days prior to arrival. After this deadline, the deposit of the first night will be charged. In case of no show or cancellation within 24 hours prior to the whole stay will be charged.

No reservation will be confirmed without credit card. In that case room is guaranteed for late arrival and will be kept available the whole night.

Full address of cardholder: [Click here to enter text.](#)

Credit Card Number:

The name of the Bank/ Financial Institution that issued the card [Click here to enter text.](#)

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Signature :