



EMUG

**The 8th Meeting of the
“European MELCOR User Group”**

Co-organised by Imperial College London and

Amec Foster Wheeler

**In Support of the Cooperative Severe Accident Research
Programme (CSARP)**

will be held in

London, England

6th – 7th April, 2016

**Imperial College
London**



With special thanks to EMUG’s permanent stake-holders:

United States Nuclear Regulatory Commission

Sandia National Laboratories

Paul Scherrer Institut (PSI)



Announcement and Call for Presentations

Deadline for registration to the meeting (including indication of presentation(s) title(s) and duration)	4 th March 2016
Deadline for hotel reservation	24 th February 2016
Presentation(s) in Power Point or in PDF format	At the meeting

On-line information is available at
<http://www.psi.ch/emug/>

1. ORGANISATION AND HOST

The 8th Meeting of the European MELCOR User Group will be held at Imperial College London on 6th to 7th April 2016. The hosting venue is at the historic Royal School of Mines in Kensington area of Central London.

The meeting will start in the morning on the 6th and should finish before 18:00 on the 7th. Final details and a draft agenda will be sent to registered participants before the meeting. A meeting room will also be available during the meeting and extended to the morning of the 8th April for any private discussions between organisations that may be required.

2. BACKGROUND OF THE MEETING

The MELCOR severe accident integral code is developed by Sandia National Laboratories (SNL) for the U.S. Nuclear Regulatory Commission (NRC) in the USA, and is provided to various European organisations through bilateral agreements under the 'Cooperative Severe Accident Research Programme' "CSARP" between US-NRC and the European organisations. The code has been used for many reactor safety applications by these organisations. Some of these organisations also continuously assess the code with data available from Severe Accident Research programmes. A few organisations have also developed models for certain critical issues, which appear in local versions of MELCOR for testing and with the goal of implementation in future releases from SNL.

The main interests in establishing the user group are to foster experience and information exchanges among the European organisations through organised annual meetings and to establish common needs on further model and correctional development of MELCOR. The first meeting of the EMUG hosted by PSI was held in December 2008. PSI is acting as coordinator of the group.

AIMS OF EUROPEAN MELCOR USER GROUP

- To provide a forum for the presentation and discussion of the experience gained by:
 - MELCOR assessment using integral and separate-effect tests leading to presentation of performance of models and related issues, including sensitivity to selected model parameters and model uncertainties,
 - Model development efforts,
 - Application of MELCOR for plant safety studies, including L2 PSA, which demonstrates weaknesses and strengths of MELCOR models in reproducing the individual severe accident phenomena, and interplay between them occurring in the nuclear and balance of plant systems, and the effect of operator actions on the accident progression through user input as introduced in the code input models,
 - Use of code with different compilers and operating systems.
- Prioritisation of user error correction and model development needs, to be transmitted to the code developers and the USNRC,
- To minimise the efforts required to obtain an adequate knowledge of optimum use of MELCOR, through sharing of experience,
- To support the gaining of MELCOR knowledge and experience, particularly concerning the younger and less experienced users.

3. SCOPE, CONTENT AND OUTLINE OF THE MEETING

The two days meeting is divided into three sections:

1 – NRC and SNL Presentations

About half a day will be devoted to presentations from NRC/MELCOR developers. Each of the following four topics could be given by one presentation.

- NRC MELCOR Activities
 - Code applications
 - Code perspectives, possibility of distribution to international partners, status and future areas of CSARP programme
 - New considerations of code development
- MELCOR input
 - New features of input conversion (M1.8.6 -> M2.1)
 - New input capabilities in M1.8.6 and M2.1
- Current MELCOR development thrust areas
 - Quality assurance
 - Code assessment work and regression testing
 - Code distribution and issue management
 - New MELCOR Models – discussion of new modelling and experience using new models
 - Current code development
- Applications
 - MELCOR best practices
 - Guidance for plant applications

2 – User Presentations

About three half days will be devoted to presentations from all of the European organisations. For those who would like to present their experience in plant applications of MELCOR 1.8.6 and MELCOR 2.1, the organisers of the meeting express their wish to see presentations not on specific aspects of the plant applications evaluating safety aspects of the plants in interest but the experience in use of the MELCOR models, input parameters, nodalisation aspects which have certain bearing on the performance of the code, as well as the quality of the code estimates.

Presentations will be grouped into the following 4 sessions:

- Group 1: User experience with nodalisation regarding simulation of different issues with preference to focus on RCS, core and RN inventory and release modelling,
- Group 2: Modelling features (early and late phase core degradation, corium pool formation, lower head behaviour, RN release, etc), new modelling efforts and nuclear fusion application.
- Group 3: Model development and assessment, integral assessment, sensitivity studies, code to code comparison (MELCOR to other code or MELCOR 1.8.6 to MELCOR 2.1), plant applications (link to uncertainty analysis, PSA L2 and PSA L3, etc.),
- Group 4: Post-processing of results (including possibility of sharing of tools developed by users), run time performance, and input conversion from MELCOR 1.8.6 -> 2.1.

3 – Discussion of all participants

- Feedback from the participants – user suggestions to further code development (it could be included in presentation)
- Organisational aspects: next meeting

Eventually, a panel session on an issue of interest of MELCOR modelling might be organised during the afternoon of the second day of the meeting.

4. PRACTICAL ARRANGEMENTS

Participants:

Participation at the meeting is open to experts of the European organisations actively using the MELCOR code in any of its versions or planning to joint CSARP*. The success of the meeting is very much dependent on the active participation of those present, especially by presentations on their own experience with the code.

**If you are not sure about your participation, please feel free to ask for further information. All the requests from non-CSARP members will be evaluated on a case-by-case basis.*

Registration:

All the participants should fill in the Meeting Registration Form that is attached to this document, including the title(s) of presentation(s), and send it before the 4th March, 2016 to:

E-mail: emug.2016@amec.com

A registration fee will not be required. The participants bear the cost of travel and accommodation. A dinner on the evening of the first day and lunches on both days will be provided and sponsored by Amec Foster Wheeler.

Arriving in London:

Guests travelling from outside the UK may take advantage of one of London's three airports: Heathrow (LHR), Gatwick (LGW) or London City Airport (LCY). Alternatively, trains from Paris and Brussels can bring you into St. Pancras International train station. **Please note that the United Kingdom is not party to the Schengen agreement so a passport must be carried when travelling from any nation outside of the United Kingdom.**

For those arriving at either Heathrow Airport or St. Pancras, the recommended method of transport is "The Tube" underground railway network. Those arriving at Gatwick Airport may consider the Gatwick Express train into Central London where you can connect to The Tube at London Victoria. Those flying into London City are advised to use the overhead light railway system (DLR) and then connect to The Tube at Tower Hill. The nearest tube station to the hotel is High Street Kensington, while the nearest Tube station to the conference venue is South Kensington.

It is a pleasant 15 minute walk between the hotel and the conference venue, which is located behind the landmark Royal Albert Hall.

The Conference Venue:

The conference venue will be hosted by Imperial College London at the Royal School of Mines. The address is:

Royal School of Mines,
Prince Consort Road,
Kensington,
London,
SW7 2BP

You will be greeted upon your arrival at the reception desk, where you will be directed to Lecture Theatre G41. A map is provided at the end of this document.

Reception phone number: 020 7594 7333.

Accommodation:

Participants have to take care of accommodation themselves. A block of rooms at a discount conference rate has been set aside at Copthorne Tara Hotel. The discount will be available between Tuesday 5th April until Friday 8th April, if required.

The hotel's address:

Copthorne Tara Hotel,
Scarsdale Place,
Kensington,
London
W8 5SR

The nearest tube station is High Street Kensington.

The cost for the accommodation is £95 single occupancy, or £105 double occupancy per night and includes all taxes and breakfast.

To make your hotel reservation, you must have a credit or debit card available. You may call:

(+44) 207 872 2009 – for group reservations.

Alternatively, if the group reservation team is not available, you may call general reservations on:

(+44) 207 872 2000.

A reservation can also be made via E-mail: groups.tara@millenniumhotels.co.uk.

Please make sure that you quote the EMUG 2016 group discount code:

AMEC060416

Guests must reserve their accommodation directly with the hotel before 24th February, 2016 in order to take advantage of the group discount. A map is provided at the end of this document.

Transport:

Please see

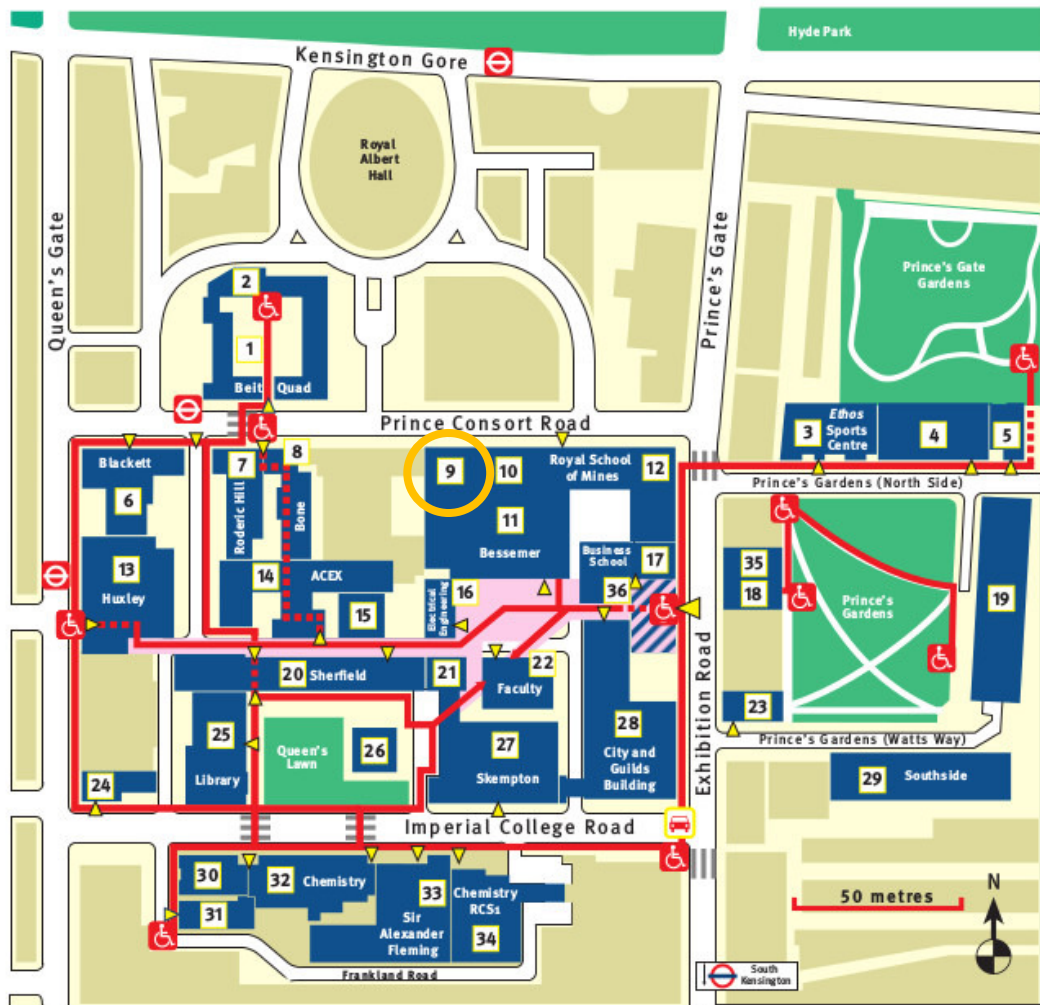
<http://www.imperial.ac.uk/visit/campuses/south-kensington/>

Language:

All presentations and discussions will be in English.

Presentations:

Presentations (in MS power point or Acrobat pdf format), can be sent to emug.2016@amec.com. The presentations will be uploaded to the EMUG group website after the meeting.



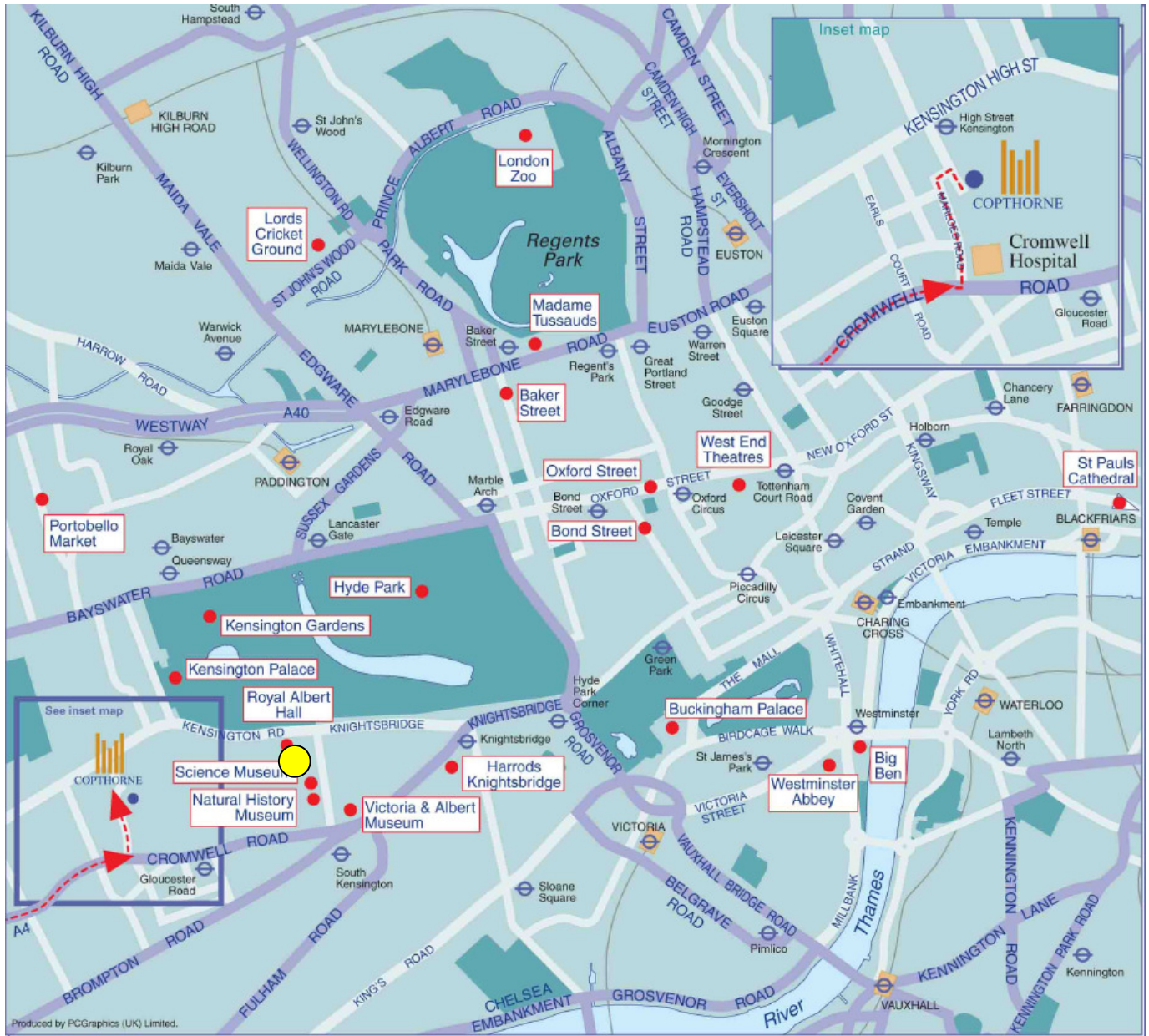
- Main walkway
- Main entrance
- Accessible route
- Buildings where wheelchair access is not possible at this time
- South Kensington Underground
- Bus stops
- Building entrances
- Vehicle entrance



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|-----------------------------|------------------------------|--|--|
| 1 Beit Quadrangle | 12 Goldsmiths Building | 21 Grantham Institute – Climate Change and the Environment | 30 Sir Ernst Chain Building – Wolfson Laboratories |
| 2 Imperial College Union | 13 Huxley Building | 22 Faculty Building | 31 Flowers Building |
| 3 Ethos Sports Centre | 14 ACE Extension | 23 58 Prince's Gate | 32 Chemistry Building |
| 4 Prince's Gdns, North Side | 15 William Penney Laboratory | 24 170 Queen's Gate | 33 Sir Alexander Fleming Building |
| 5 Weeks Hall | 16 Electrical Engineering | 25 Central Library | 34 Chemistry RCS1 |
| 6 Blakett Laboratory | 17 Business School | 26 Queen's Tower | 35 52 Prince's Gate |
| 7 Roderic Hill Building | 18 53 Prince's Gate | 27 Skempton Building | 36 Alumni Visitor Centre |
| 8 Bone Building | 19 Eastside | 28 City and Guilds Building | |
| 9 Royal School of Mines | 20 Sherfield Building | 29 Southside | |
| 10 Aston Webb | Student Hub | | |
| 11 Bessemer Building | Conference Office | | |

Please make your way to
the Royal School of Mines

The Copthorne Tara Hotel



Royal School of Mines,
Conference Venue



EMUG

**The 8th Meeting of the
“European MELCOR User Group”
Imperial College London and Amec Foster Wheeler,
London, UK
6th-7th April, 2016**

Meeting Registration Form

Surname (Family name)¹:

Given Name (s):

Title or Function:

Institution:

E-mail address:

Title (s) of the presentation (s):

Time needed for presentation² -
(including 5 min for discussion):

Vegetarian food/other -
requirements on food (please
specify):

To be sent as soon as possible and in any case before 4th March, 2016, to

E-mail: emug.2016@amec.com.

¹ (Please indicate whether Prof., Dr., Mr., Miss, Mrs.)

² If the time for presentation will have to be amended due to the schedule, the author will be informed.

