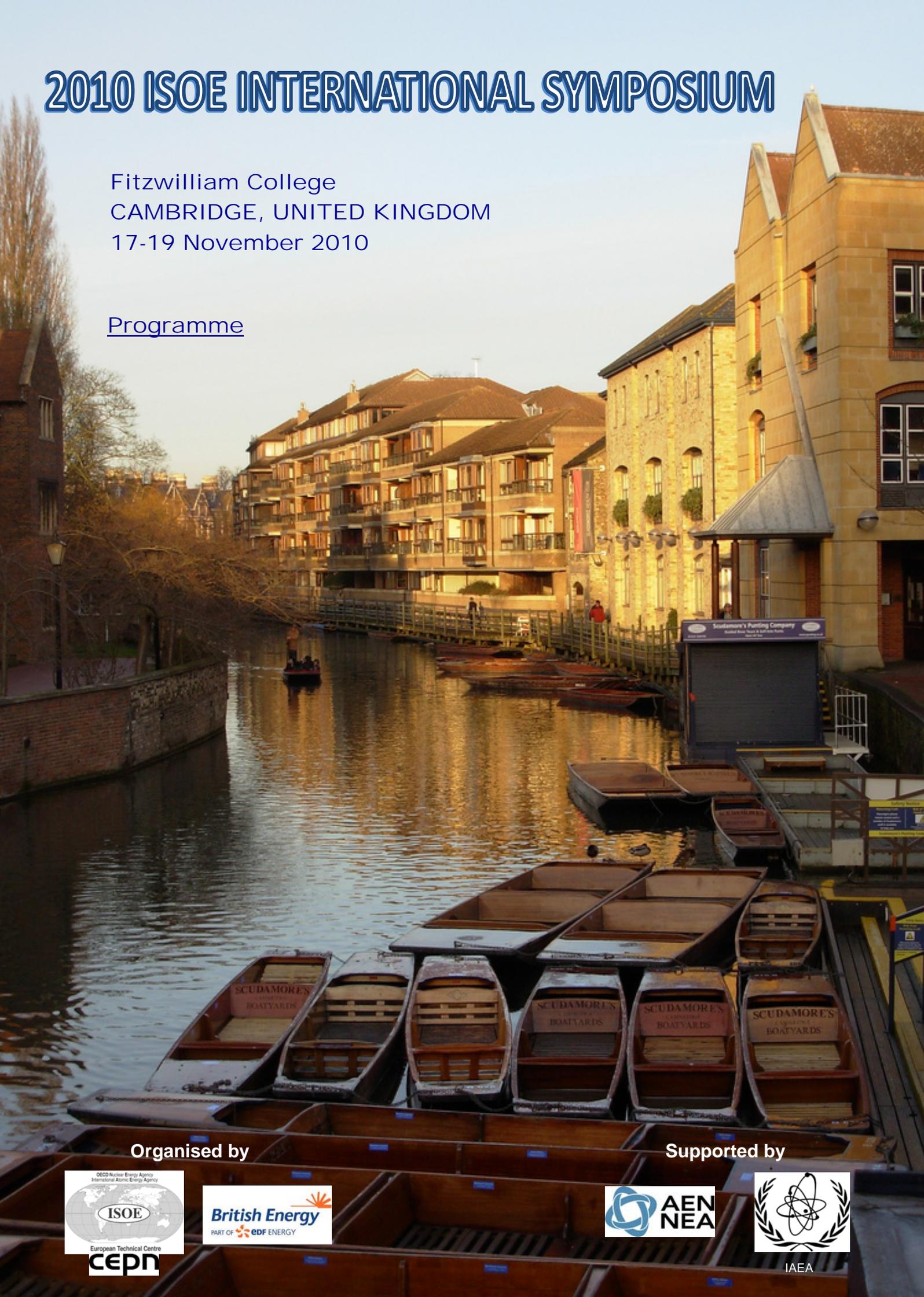


2010 ISOE INTERNATIONAL SYMPOSIUM

Fitzwilliam College
CAMBRIDGE, UNITED KINGDOM
17-19 November 2010

Programme



Organised by



Supported by



IAEA

The European Technical Centre of the Information System on Occupational Exposure (ISOE) is pleased to organize, in collaboration with the Sizewell B Nuclear Power Plant from EDF Energy, the 2010 ISOE International Symposium on Occupational Exposure Management at Nuclear Facilities. The Symposium will be held in Cambridge, United Kingdom, from 17th to 19th November 2010. It is co-sponsored by the OECD Nuclear Energy Agency (NEA) and the International Atomic Energy Agency (IAEA).

The Symposium is targeted at all those concerned with radiological protection at nuclear power plants: radiation protection managers and staff members, maintenance and operation planners, contractors, exposed workers, regulatory body representatives and international organisations. It is also opened to research reactors and professionals from other nuclear fuel cycle installations that have common radiological protection problems with nuclear power plants.

Since the beginning of nuclear power plants' operation, an important patrimony of knowledge and knowhow in the field of radiation protection has been built. In this period where new nuclear energy programmes are undertaken and where the crucial question of competences' renewal is emerging, it is now necessary to consolidate this patrimony and to develop adequate ways of to transmit it to the next generations.

Dealing with radiation protection at the design, operation and decommissioning stages of installations, this new meeting point of radiation protection professionals under the heading of ISOE will be a great opportunity to share, at the international level, experiences and practices favouring the management of occupational exposures and the optimisation of radiation protection. Furthermore, the accompanying Technical Exhibition will give participants the opportunity to see the latest developments from industrial and commercial companies active in fields of radiation protection.

We look forward to welcoming you in Cambridge, in the Fitzwilliam College, hoping that this great place of knowledge development and sharing will contribute to learn from each other and work together towards a continuous improvement of radiation protection.

Caroline SCHIEBER
Head of ISOE-ETC
On behalf of the Programme Committee

PROGRAMME COMMITTEE MEMBERS

| | |
|----------------------------|--|
| Gonzague ABELA | <i>EDF DIN – France</i> |
| Lucie D'ASCENZO | <i>ETC, CEPN – France</i> |
| Coralie BADAJOZ | <i>ETC, CEPN – France</i> |
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| Monika FARNIKOVA | <i>Temelin NPP – Czech Republic</i> |
| Yoshihisa HAYASHIDA | <i>ATC, JNES – Japan</i> |
| E. Vincent HOLAHAN | <i>U.S. Nuclear Regulatory Commission – USA</i> |
| John HUNT | <i>IAEATC, IAEA</i> |
| Timo KONTIO | <i>Loviisa NPP – Finland</i> |
| Hans MEIJER | <i>Borssele NPP – The Netherlands</i> |
| David MILLER | <i>NATC, University of Illinois – USA</i> |
| Xavier NIEL | <i>ASN – France</i> |
| Thanh Trung NGUYEN | <i>Electrabel GDF-SUEZ – Belgium</i> |
| Guy RENN | <i>Sizewell B Power Station – United Kingdom</i> |
| Caroline SCHIEBER | <i>ETC, CEPN – France</i> |
| Torgny SVEDBERG | <i>Ringhals NPP – Sweden</i> |
| Thomas TAYLOR | <i>VGB PowerTech e.V. – Germany</i> |
| Harald WELLER | <i>Gösgen NPP – Switzerland</i> |

CONFERENCE LANGUAGE

The conference language will be English

DEDICATED MEETINGS

TUESDAY 16 NOVEMBER 2010

The ISOE Symposium will be preceded by two dedicated meetings devoted to specific audience.

If you wish to participate to one of those meetings, please contact the relevant person as indicated below in order to register to one of these meetings.

The registration to these meetings is free of costs.

Regulatory Body representatives meeting

09h00 – 17h00 Room: Old Library 1

Contact-person:

Swen-Gunnar JAHN, ENSI, Email: Swen-Gunnar.Jahn@ensi.ch

Radiation Protection Managers meeting

09h00 – 17h00 Room: Reddaway Room

Contact-persons:

Guy RENN, Sizewell B NPP, Email: guy.renn@british-energy.com

Gonzague ABELA, EDF, Email: gonzague.abela@edf.fr

16h00-18h00 Registration

2010 ISOE INTERNATIONAL SYMPOSIUM PROGRAMME

WEDNESDAY 17 NOVEMBER 2010

- 08h00 – 8h30 Registration
08h30 – 9h00 Opening Ceremony (ISOE, EDF Energy)

Session 1: RP at Design Stage of the Nuclear Power Plants
Chairpersons: Olivier Couasnon (ASN, France), Guy Renn (Sizewell B NPP, United Kingdom)

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|-------------------------------|--|
| Occupational 09h00 – 09h30 | Keynote lecture: New Nuclear Build –The UK Generic Design Assessment and New Build Challenges – <i>K. Allars (HSE)</i> |
| 09h30 – 09h45 | Occupational radiation protection principles and criteria for designing new nuclear power plants - Introduction of the Case study - <i>E. Gaillard-Lecanu (EDF R&D), M. Pinak (OECD Nuclear Energy Agency), G. Frasch (Bundesamt für Strahlenschutz)</i> |
| 09h45 – 10h00 | Methodology for Ensuring the Integration of ALARA into the Design of the AP1000 – <i>E. Slobe, A. Wilmot (Westinghouse Electric Company LLC)</i> |

10h00 – 10h30 *Coffee-break: visit of exhibition booths, posters*

| | |
|---------------|---|
| 10h30 – 10h45 | ACR-1000 Design Features Minimizing Collective Occupational Radiation Exposures and Public Doses to ALARA – <i>S. Julien, B. Yue, L. Olayiwola, K. Hau (AECL)</i> |
| 10h45 – 11h00 | Design features of APR 1400 on Radiation Protection and Safety Performance – <i>H.S. Roh, H.H. Lee (KHNP)</i> |
| 11h00 – 11h15 | Radiation Protection in the design of the Flamanville 3 EPR – <i>N. Eglizaud, S. Moreau, Y. Beneteau (EDF-CNEN)</i> |
| 11h15 – 11h30 | Material Selection According to ALARA During Design Stages of EPR™ – <i>P. Jolivet, A. Tamba, F. Chahma (AREVA NP)</i> |
| 11h30 – 12h00 | Full Session Discussion |

Session 2: RP Management (1)
Chairpersons: Beatriz Gomez-Argüello (Tecnatom, Spain), Tasos Zodiates (EDF Energy, United Kingdom)

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| 12h00 – 12h15 | Practical Guides for the Integration of Radiation Protection from the Planning Stage of Jobs to the Realization and Feedback Experience – <i>G. Abela (EDF-DIN), P. Ridoux (EDF-CIPN), P. Le Genti (EDF-UTO)</i> |
| 12h15 – 12h30 | SAP Nuclear - a new software for radiation protection in Slovenské elektrárne / Enel company – <i>L. Dobiš (Bohunice NPP), Š. Grúbel (Mochovce NPP), F. Putignano (Enel)</i> |
| 12h30 – 12h45 | Further Development of the Weibull Distribution Method for Evaluating ALARA Performance – <i>E.L. Frome, J.P. Watkins, D.A. Hagemeyer (ORAU)</i> |

12h45 – 14h15 *Lunch*

2010 ISOE INTERNATIONAL SYMPOSIUM PROGRAMME

WEDNESDAY 17 NOVEMBER 2010

Session 2: RP Management (2)

Chairpersons: **Beatriz Gomez-Argüello** (Tecnatom, Spain), **Tasos Zodiates** (EDF Energy, United Kingdom)

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| 14h15 – 14h30 | A journey to excellence; transforming the EDF Energy (Existing Nuclear UK) Radiological Protection Programme – <i>M. Mekisich (EDF Energy)</i> |
| 14h30 – 14h45 | Driving Performance Improvements with the Use of Performance Indicators – <i>P.A. Jones (Calvert Cliffs NPP)</i> |
| 14h45 – 15h00 | Operational Radiation Protection Self-Assessment Program – <i>M. Medrano, S. Zorrilla (Laguna Verde NPP)</i> |
| 15h00 – 15h15 | Using dose constraints as ALARA instruments – <i>C. Chitu, V. Simionov, I. Popescu (Cernavoda NPP)</i> |
| 15h15 – 15h30 | Cook Unit 1 & 2 US Lowest PWR Refueling Outage Doses: ALARA Achievements & Lessons Learned – <i>C. Moeller (Cook NPP) – Distinguished Paper, Fort Lauderdale 2010</i> |
| 15h30 – 16h00 | Full Session Discussion |

16h00 – 16h45 *Coffee-break: visit of exhibition booths, posters*

Session 3: Dosimetry and Measurement Materials

Chairpersons: **Willie Harris** (Exelon Nuclear, USA), **Swen-Gunnar Jahn** (ENSI, Switzerland)

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|---------------|--|
| 16h45 – 17h00 | The Determination of when Routine Internal Dosimetry Monitoring Is Required – <i>G. Roberts (Nuvia Limited)</i> |
| 17h00 – 17h15 | Feedback experience on new Personnel Contamination Monitors at the exit of the RCA in the EDF NPP – <i>N. Valendru (EDF-UNIE/GPRE), J. Fazileabasse (EDF R&D)</i> |
| 17h15 – 17h30 | Operational Experience in the use of automated contamination survey techniques to improve site contamination surveys – <i>G. Renn (Sizewell B NPP), M. Davies (Nuvia Limited)</i> |
| 17h30 – 17h45 | GAMPIX A New Generation of Gamma Camera for Hot Spot Localisation – <i>F. Carrel (CEA List), R. Abou Khalil, P. Blot (Canberra), K. Boudergui (CEA List), S. Colas (CEA DAM Valduc), M. Gmar (CEA List), F. Lemasle (Canberra), N. Saurel (CEA DAM Valduc), V. Schoepff (CEA List), H. Toubon (Canberra)</i> |
| 17h45 – 18h15 | Full Session Discussion |

Optional visit: Cambridge City “Ghost Tour”

2010 ISOE INTERNATIONAL SYMPOSIUM PROGRAMME

THURSDAY 18 NOVEMBER 2010

Session 4: Source-Term Management

Chairpersons: **Gérard Cordier** (EDF, France), **Harald Weller** (Gösgen NPP, Switzerland)

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|---------------|--|
| 08h30 – 09h00 | Pressurized Water Reactor Primary Chemistry Initiatives and Impact on Plant Dose Rates – <i>D. Perkins, C. Haas, D. Hussey (EPRI)</i> |
| 09h00 – 09h15 | EDF Measurement Program for Source Term Reduction – <i>G. Ranchoux (EDF-SEPTEN), A. Rocher, O. Lecoanet (EDF-UNIE/GPRE), M. Wintergerst (EDF-CEIDRE), G. Cordier (EDF-DPN), J. Bonnefon, L. Guinard (EDF-SEPTEN)</i> |
| 09h15 – 09h30 | Dose Rate Reduction Methods at Shimane Nuclear Power Station – <i>T. Kanaoka, H. Kajitani, T. Sato (Chugoku Electric Power Company), N. Usui (Hitachi-GE Nuclear Energy) – Distinguished Paper, Aamori 2009</i> |
| 09h30 – 09h45 | Full System Decontamination – Sustainable Dose Reduction for operating Nuclear Power Plants – <i>C. Stiepani (AREVA NP GmbH)</i> |
| 09h45 – 10h15 | Full Session Discussion |

10h15 – 11h00 *Coffee-break: visit of exhibition booths, posters*

Session 5: Job Specific Experience

Chairpersons: **Gonzague Abela** (EDF, France), **Staffan Hennigor** (Forsmark NPP, Sweden)

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|---------------|---|
| 11h00 – 11h15 | Operational Dose Management during Vessel Entry Campaigns at Advanced Gas Cooled Reactors – <i>I. Goldsmith (Nuvia Limited)</i> |
| 11h15 – 11h30 | Steam Generator Replacement of the Belgian Doel 1 unit: follow-up and on site dosimetry – <i>B. Walschaerts (Tractebel Engineering), J. Defloor, R. Wyckmans (Doel NPP)</i> |
| 11h30 – 11h45 | Clean-up of Fuel Transfer Canal Sump – <i>B. Breznik, R. Erman, M. Pavlin (Krško NPP)</i> |
| 11h45 – 12h00 | Hot Topic Report of Bottom Header Defected, YGN 5 in 2003 – <i>Y.H. Youn (KHNP) – Distinguished Paper, Aamori 2009</i> |
| 12h00 – 12h30 | Full Session Discussion |

12h30 – 14h00 *Lunch*

2010 ISOE INTERNATIONAL SYMPOSIUM PROGRAMME

THURSDAY 18 NOVEMBER 2010

Session 6: Learning from events in RP field

Chairpersons: **David Miller** (ISOE NATC, USA), **Wataru Mizumachi** (JNES, Japan)

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|---------------|---|
| 14h00 – 14h15 | Lessons Learned from Radiological Events in Switzerland – <i>S.-G. Jahn (ENSI)</i> |
| 14h15 – 14h30 | Radiation Protection Management and ALARA Lessons Learned during TMI refueling outage – <i>W. Harris (Exelon Nuclear) – Distinguished Paper, Fort Lauderdale 2010</i> |
| 14h30 – 14h45 | Spread of contamination through goods taken out from RCA - Lessons learned – <i>S. Hennigor, J. Uljons (Forsmark NPP)</i> |
| 14h45 – 15h15 | Full Session Discussion |
| 15h15 – 15h45 | Conclusions from RPM meeting |
| 15h45 – 16h15 | Conclusions from Regulatory Body meeting |

16h15 – 17h00 *Coffee-break: visit of exhibition booths, posters*

19h00 *Bus for Congress Dinner*

20h00 *Congress Dinner at Imperial War Museum*

2010 ISOE INTERNATIONAL SYMPOSIUM PROGRAMME

FRIDAY 19 NOVEMBER 2010

Session 7: RP and Decommissioning

Chairpersons: **Vincent Holahan** (US NRC, USA), **Thomas Taylor** (VGB PowerTech e.V., Germany)

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|---------------|---|
| 08h30 – 08h45 | Specificities of the ALARA approach for activities during the decommissioning of NPPs – <i>F. Drouet (CEPN)</i> |
| 08h45 – 09h00 | EDF General Methodology to assess worker exposition and environmental impact caused by work during dismantling - Lack of knowledge and tracks to improve it – <i>P. Fayolle, G. Laurent (EDF-CIDEN)</i> |
| 09h00 – 09h15 | Assessment of the resuspension factor for alpha airborne particles applicable to dismantling of natural uranium graphite gas reactor sites – <i>M. Reynier, D. Hameau, E. Gaillard-Lecanu, J. Fazileabasse (EDF R&D), C. Rappet, A. Guesdon (EDF-CIDEN), M. Fattahi-Vanani (SUBATECH)</i> |

09h15 – 10h00 *Coffee-break: visit of exhibition booths, posters*

| | |
|---------------|---|
| 10h00 – 10h15 | Activities in José Cabrera Nuclear Power Plant (2009) – <i>M.A. de la Rubia, M. Rosales, G. Ponjuán, I. Calavia, T. Labarta, A. Gonzalvo (CSN)</i> |
| 10h15 – 10h30 | Radiological data from German Nuclear Power Plants During the Transition From Operation to Decommissioning – the Need for the Improved Data Acquisition Structure for Utilities under Decommissioning – <i>E. Strub, J. Kaulard, C. Schmidt (GRS)</i> |
| 10h30 – 10h45 | EPR Decommissioning by Design – <i>I. Terry (AREVA NP GmbH)</i> |
| 10h45 – 11h15 | Full Session Discussion |

11h15 – 11h45 **Distinguished papers and Closure of the Symposium**

Chairperson: **Caroline Schieber** (CEPN-ISOE European Technical Centre)

Optional Technical Visits:

Buses will leave at 12h00 to Sizewell Power Station and return to Cambridge by 19h00.

Sizewell A NPP

Maximum 12 Persons

Sizewell B NPP

Maximum 12 Persons

GENERAL INFORMATION

How to get to Cambridge

The City of Cambridge is located in the East of England, 50 miles north of London. It is well served by road and rail links, and is within easy distance of the major London airports.

London to Cambridge by Train

There is a fast and frequent rail service (<http://www.nationalrail.co.uk/>) from London King's Cross & London Liverpool Street through to Cambridge. Fast trains to Cambridge Station leave from London King's Cross every half hour. The journey takes about 45 minutes.

London to Cambridge by Bus

National Express (<http://www.nationalexpress.com/>) operates coach services to Cambridge from major towns & cities throughout the U.K.

Buses from London to Cambridge take 2hr 10min. Buses leave hourly between Victoria Coach Station in London and Cambridge Parkside Coach Station.

From London Airports to Cambridge



London Stansted is the nearest international airport to Cambridge, located just 25 miles to the South of the city.

From Stansted, Cambridge can be reached by:

- Coaches: 50min travel –

<http://www.nationalexpress.com/Airport/index.cfm>

- Trains: 37min or 55min travel –

<http://www.crosscountrytrains.co.uk>

From Gatwick and Heathrow you can catch a direct train (2 hours travel):

<http://www.crosscountrytrains.co.uk>

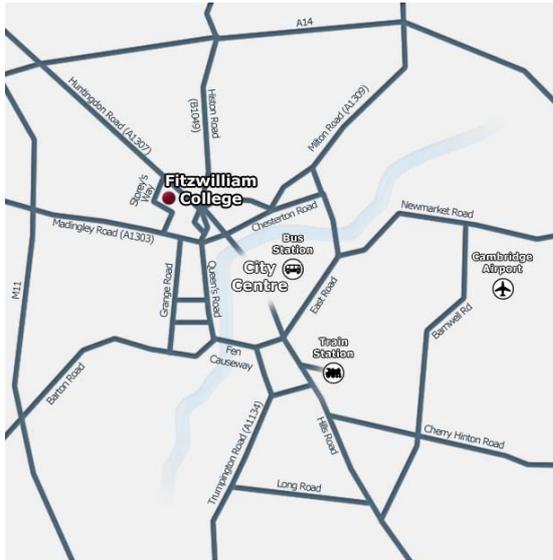
London to Cambridge by Car

Cambridge is 63 miles northeast of London via the M11 motorway. It takes about 1hr 45min to drive.

GENERAL INFORMATION

How to get to Fitzwilliam College

Storey's Way, Cambridge, CB3 0DG - <http://www.fitz.cam.ac.uk>



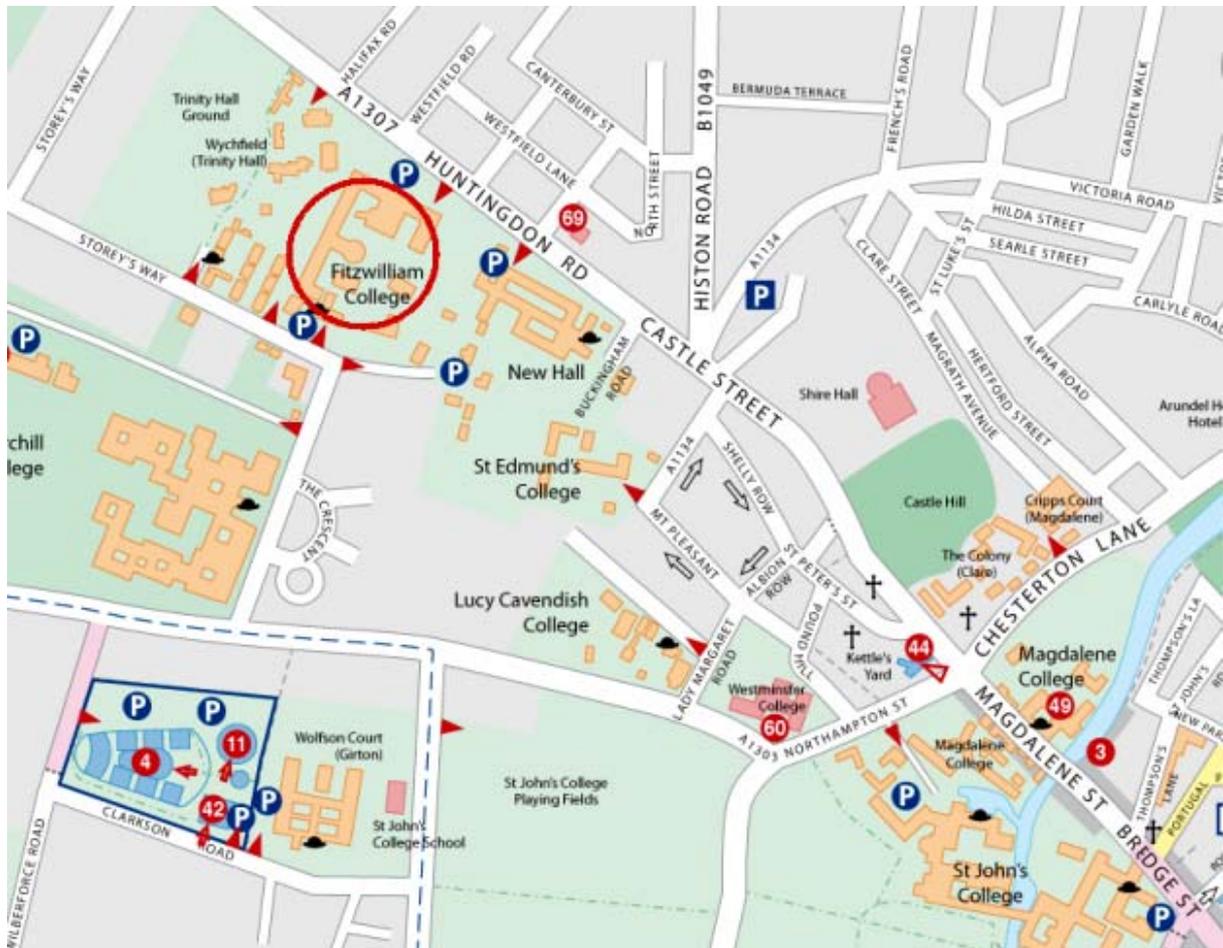
✚ From the train station

The train station is situated on the South of Cambridge City Centre, and Fitzwilliam can easily be reached using taxis or buses. Alternatively, it is about a 45 minutes walk. The town centre is approximately half way between the station and the College, allowing you to walk half and catch a bus for the other half if you choose.

✚ From the Bus Station

The National Express coaches from airports and London all stop at Parkside (opposite Police & Fire Stations). Stagecoach and regional buses all stop at the Drummer Street/Emmanuel Street Bus Stations in the City Centre. From there you can take a taxi or catch a bus. There is a stop directly outside the College on *Huntingdon Road* (line Citi5 and Citi6).

After 6.30pm you are advised to take a taxi.



GENERAL INFORMATION

Registration fees

The registration fees for the 2010 ISOE symposium are 450 euros. This includes the participation to the Symposium, the book of abstracts, the lunches, the visits and the congress dinner.

Posters

A poster exhibition will take place simultaneously with the Symposium Conference. It remains possible to propose your contribution until 15th of October by sending an abstract and/or a full paper to the following email address: dascenzo@cepn.asso.fr

Authors

Authors will be individually informed by the Programme Committee on the details concerning their papers. The papers must be received by the 15th of October 2010.

Exhibition Booths

A technical exhibition will take place simultaneously with the Symposium conference. Coffee-breaks will be held in the exhibition area. Some exhibition spaces are still available and registrations are accepted until the end of October 2010.

Information

Lucie D'Ascenzo

CEPN

Phone: +33 1 5552 1928 – Fax: +33 1 5552 1921

Email: dascenzo@cepn.asso.fr

GENERAL INFORMATION

Accommodation

Room pre-reservations are made by the Organising Committee in 7 hotels that offered a lower price for all participants in the Symposium. The allotments are valid until the **1st of October 2010**. Participants make their own reservations and settle the bill themselves. Please book the hotel rooms as soon as possible.

Please quote the allotment code “**ISOE**” when making a booking.

| Hotels | Rates (per room, per night, including breakfast and VAT) |
|--|--|
|  Best Western Gonville Email: info@gonvillehotel.co.uk Website: www.bw-gonvillehotel.co.uk Tel: +44 1223 366611 / Fax: +44 1223 315470 | £124.50 |
|  Lovell Lodge Email: info@lovell-lodge.co.uk Website: http://www.lovell-lodge.co.uk Tel: +44 1223 425478 / Fax: +44 1223 426581 | £45.00 |
|  Regent Email: reservations@regenthotel.co.uk Website: www.regenthotel.co.uk Tel: +44 1223 351470 / Fax: +44 1223 464937 | Double room: £103.50 Single room: £94.50 |
|  Felix Email: help@hotelfelix.co.uk Website: www.hotelfelix.co.uk Tel: +44 1223 277977 / Fax: +44 1223 277973 | Kingsize rooms: Single occupancy: £132.00 Double occupancy: £162.00 |
|  Royal Cambridge Email: royal.cambridge@forestdale.com Website: www.forestdale.com Tel: +44 1223 351631 / Fax: +44 1223 352972 | £100.00 |
|  Doubletree by Hilton Email: abbie.mcccrossen@hilton.com Website: www.doubletreecambridge.com Tel: +44 1223 259988 / Fax: +44 1223 316605 | Standard King rooms: Single occupancy: £169.00 Double occupancy: £179.00 |
|  University Arms Email: dua.sales@devere-hotels.com Website: www.devere-hotels.com Tel: +44 1223 273000 / Fax: +44 1223 273037 | Single occupancy: £125.00 Double occupancy: £135.00 |



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