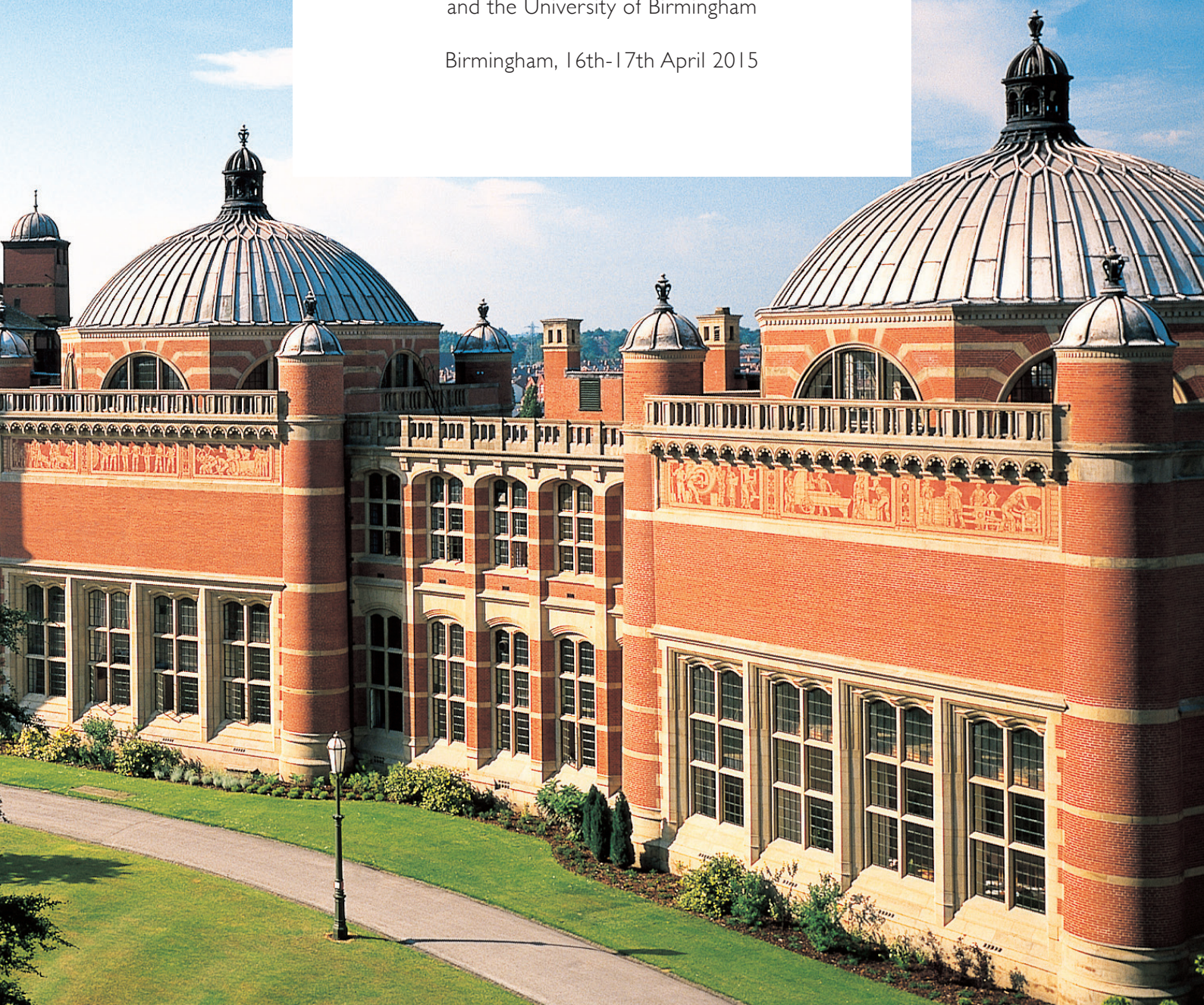
- AGENDA -

Education and Training in Nuclear Decommissioning

Seminar organised jointly
by the European Commission Joint Research Centre
and the University of Birmingham

Birmingham, 16th-17th April 2015



UNIVERSITY OF
BIRMINGHAM

European
Commission

Nuclear decommissioning is an industrial activity that is growing worldwide creating many opportunities for high-skilled workers. Over the last decades, European companies have been involved in decommissioning projects that are targeted to deliver an environmentally friendly end-product such as a fully restored green field following the shutdown of a nuclear installation.

The European Union has acquired know-how in the decommissioning field and today Europe can position itself at the top level in the world market. However, in view of the expected expansion of the activities, efforts have to be undertaken to maintain this leading position and in particular to develop the related knowledge, skills and competences.

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- 1st day (Thursday 16th April 2015) -

8:00 - 9:00 Registration

9:00 - 10:00 Welcome and setting the scene of the seminar

Prof. Richard Williams, Pro Vice Chancellor, Head of Engineering and Physical Sciences
Welcome to the University

Representation of the European Commission (EAC, tbc)
Importance of E&T in the EU and related EC policies

Mrs. Beccy Pleasant, Head of Skills and Talent, Nuclear Decommissioning Authority, UK
E&T in the nuclear field in the UK

Mr. Jean-Paul Glatz, Director, European Commission - Joint Research Centre
EC views on the support to nuclear decommissioning in the EU

10:00 - 10:30 Coffee break

10:30 - 12:00 Session 1a: Identifying the needs for E&T in Nuclear Decommissioning
The session aims to explain the developments of Nuclear Decommissioning in the EU and the future requirements for skilled and experienced staff in this area.

Chair: European Commission, Directorate General for Energy (ENER)
Mr. Maurizio Boella, EC-ENER
Introduction, views EC DG ENER (general)

Prof. Cherry Tweed, Chief Scientific Advisor to RWMD, UK
Views in the UK

Mr. Gilles Clément, Vice-President AREVA Back-end, F
HR needs in nuclear decommissioning

Dr. Steven Judge, National Physical Laboratory, UK
Training and Research needs in nuclear decommissioning

Mr. Massimo Flore, EC-JRC-Petten, European HR Observatory in Nuclear
Results of EU inquiries by "European Human Resources Observatory in the Nuclear"

Mr. Masanori Hirota, IAEA
Knowledge Management in Nuclear Decommissioning

Conclusion first session on needs for E&T

12:00 - 13:30 Lunch

13:30 - 14:45 Session 1b: Career development in Nuclear Decommissioning
The session includes a panel discussion with input of the participants and will explore the factors and ways that can enhance motivation for a career in Nuclear Decommissioning.

Chair: Cavendish Nuclear, UK
Mr. Bob Page, Mr. Paul Meneely, HR Director, Cavendish Nuclear, UK
Views and experiences of the industry

Mrs. Jean Llewellyn, Chief Executive for the National Skills Academy Nuclear , UK
Views and experiences of the industry

Mrs. Liane White, Director of Talent & Development, NNL, UK
Views on careers in R&D for Decommissioning and Waste Management

Mrs. Charlène Bouchard, NUVIA, F
Practical experience with management of decommissioning projects

Panel discussion:
How to improve the motivation of people to develop careers in Decommissioning?

14:45 - 15:15 Coffee break

15:15 - 16:30 Session 2a: Training Opportunities in Nuclear Decommissioning
The session will give a view on existing professional training programmes, on their experience feedback and a vision on future developments with possible areas for collaboration.

Chair: Institut National des Sciences et Techniques Nucléaires (INSTN, France)
Mr. Xavier Vitart, Director INSTN, F
Experience with training programmes in the nuclear field

Mr. Masanori Hirota, IAEA
Experience with IAEA training programmes in nuclear decommissioning and remediation

Mr. Bent Pederson, EC-JRC-Ispra
The Decommissioning Summer School at JRC-Ispra

Mrs. Michèle Coeck, SCK.CEN, B
Training modules training tools, e-learning in the nuclear field

Mr. John Robertson, Director of Training Gen2, UK
Training programmes for decommissioning and waste management in the UK

Conclusion on training courses dedicated to decommissioning, possible synergies and areas for collaboration and improvements

17:30 - 19:00 Tour of Birmingham University campus

19:00 - Cocktail, dinner, social activity

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- 2nd day (Thursday 17th April 2015) -

09:00 - 10:30 Session 2b: Education and Research Opportunities in Nuclear Decommissioning
The session will explain the vision of some European Universities on the implementation of Education and Research programmes in Decommissioning and will clarify on the way joint initiatives can be supported by the European Commission.

Chair: European Commission, Directorate General Research and Innovation (RTD)
Mr. Georges Van Goethem, EC-RTD, Chair
European support to research, innovation and education

Dr. Alan Herbert, Course Director for Nuclear Waste Management and Decommissioning, University of Birmingham, UK
Experience feedback graduate/postgraduate course in nuclear field

Dr. Joachim Knebel , Karlsruhe Institute for Technology, D
Evolution Education in the nuclear decommissioning in Germany

Prof. Vladimir Slugen, Slovak University of Technology , SK
SK Academy for Education in Decommissioning

Dr. John Roberts, European Nuclear Education Network and University of Manchester, UK
The European Nuclear Education Network and Nuclear Decommissioning

Conclusion on graduate/postgraduate courses in nuclear and in decommissioning, vision on future developments and areas for collaboration.

10:30 - 11:00 Coffee break

11:00 - 12:30 Session 3: Promotion of E&T in nuclear decommissioning
The session and the panel discussion will allow to share the experiences of young professionals on how education and training could be better promoted in the light with the current perception on the future of the nuclear sector across Europe.

Chair: European Commission Joint Research Centre
Mr. Pierre Kockerols, EC-JRC Nuclear Safety and Security Unit
Promotion of E&T in the European Union

Mr. James Pearson, Radioactive Waste Management Consultant, Amec Foster Wheeler
Views industrial actor on career development in the nuclear

Mrs. Michael Bray, Chair of Young Generation Nuclear and Ansaldo-NES
Views young generations on career development in the nuclear

Mr. Richard Adams, European Economic and Social Committee
Public acceptance and impact on young generations ' choices

Representative ENS young generation, tbc
Universities views on promotion of E&T in Nuclear Decommissioning

Panel discussion:
How to promote interest for E&T in decommissioning?

12:30 - 13:00 Closing of the seminar

Conclusion, views on the main outcomes of the seminar
Prof. John Perkins, University of Manchester, UK

Next steps: report on the way forward to support Education and Training in Nuclear Decommissioning in the EU.
Mr. Peter Churchill, European Commission Joint Research Centre
Prof. Martin Freer, University of Birmingham, UK

13:00 - 14:00 Lunch before departure

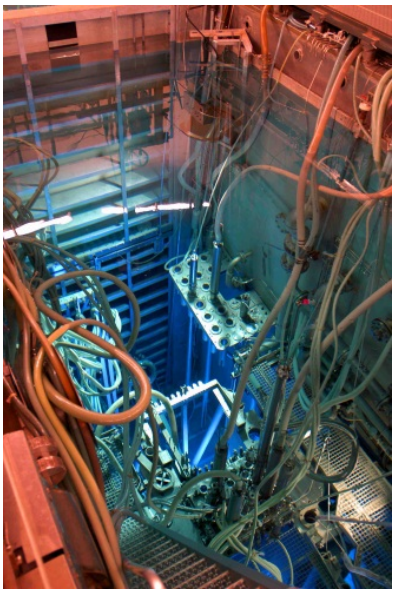
Nuclear decommissioning envelopes all technical and management actions associated with ceasing operation of a nuclear installation and its subsequent dismantling to remove it from regulatory control.
Nuclear decommissioning is already an industrial reality, and significant *growth of the market* can still be expected. Out of more than 560 nuclear power plants that have been built worldwide, 130 reactors are permanently shut down. A large number of various types of research facilities have also become obsolete and are shut down. Today, only about 10% of all shut down plants have been fully decommissioned, the rest being at different stages of "safely enclosed", "dismantling" and "decommissioning".
Moreover, after the Fukushima accident in 2011, Germany, one of Europe's biggest operators of nuclear power, shut down 8 out of its 17 reactors and committed to close the rest by 2022. Other countries, including Japan also envisage accelerating the closure of their oldest plants.
This growing decommissioning market creates a potential for new activities, with highly skilled jobs in an innovative field. The clear global positioning of the European Union is beneficial and will stimulate the export of know-how to other countries, especially those having a large nuclear programme, and the ability to promote the highest levels of safety.

The need for focussed and flexible education and training (E&T)

The need to recruit and maintain qualified personnel is a known recurrent concern in the nuclear sector. The issue is particularly acute for the field of nuclear decommissioning. There is a lack of attractiveness or interest for young people studying and developing a career in this area despite the growing opportunities, which will require competences spread over several decades.
Moreover it has to be considered that the nuclear industry will require new resources, including, in some cases, staffing from non-nuclear specialised companies and SMEs.
The organisation of targeted and flexible education and training programmes is essential. It appears that in several EU countries new initiatives are emerging or are in a development stage, going from short professional induction training programmes to extensive academic postgraduate courses.

Role of the European Commission - Joint Research Centre (JRC)

As the Commission's in-house science service, the Joint Research Centre's mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle. Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new methods, tools and standards, and sharing its know-how with the Member States, the scientific community and international partners. The JRC research activities are spread over seven institutes (located in Belgium, Germany, Italy, the Netherlands and Spain) and employ about 3000 staff members from all EU member states.



For over two decades the JRC has been involved in the decommissioning of its own old and shutdown nuclear installations which were originally built following the signature of the Euratom Treaty in 1957. In this sense, the JRC has acquired a large and practical experience in decommissioning as well as in the management of the radioactive waste. A dedicated training programme on decommissioning is well established on the Ispra site (Italy). In view of the growing EU decommissioning market and associated challenges, the European Parliament, during its debates on the future Euratom research programme, requested that JRC builds upon its experience and further reinforces its support for safe decommissioning in Europe. Improving knowledge management and promotion of education and training in decommissioning are some of the areas in which the JRC will contribute.

Role of the University of Birmingham

The University of Birmingham has a long tradition of working with the UK nuclear industry. Within the Birmingham Centre for Nuclear Education and Research, the Physics and Technology of Nuclear Reactors Masters course has been running since 1956 and a postgraduate programme in Nuclear Waste Management and Decommissioning is well established to cater for the growing demand in this sector. The University has the largest UK set of nuclear training programmes, delivering close to 100 graduates into the UK nuclear sector per year. The University published the conclusions of a policy commission in 2012 on "The Future of Nuclear Energy in the UK", which included highlighting skills and training gap in the nuclear sector.

Objectives of this seminar

In view of the above, the University of Birmingham and the JRC decided to organise jointly a seminar on "Education and Training in Nuclear Decommissioning" with three main objectives.

First, the seminar aims to identify the real *needs* in education and training from the stakeholders (industry, organisations, regulatory bodies, policy-makers), the required competences and the experiences in motivating staff development in the decommissioning field.

Second, the seminar will disseminate information on existing education and training *opportunities* in nuclear decommissioning and on the related experiences; it will contribute to identify possible synergies and areas for collaboration and improvements to the related programmes.

Finally, the seminar will assess on how education, training and research in the field of nuclear decommissioning can be better *promoted*, in particular to young students.

Expected outcome of the seminar

The outcome of the different sessions of the seminar and the final conclusions of the seminar will be published in a joint report by the University of Birmingham and the Joint Research Centre.

The report will give orientations on the way forward to support Education and Training in Nuclear Decommissioning in the EU.

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