



European  
Research Area

EUROPEAN  
COMMISSION

Third announcement and Call for papers

# EC CAST (CArbon-14 Source Term) Project



A Symposium to be held in Lyon, France,  
16<sup>th</sup> – 18<sup>th</sup> January 2018,  
to discuss CAST project outcomes

The research leading to these results has received funding from the European Union's European Atomic Energy Community's (Euratom) Seventh Framework Programme FP7/2007-2013 under grant agreement no 604779, the CAST project.

## **BACKGROUND**

The EC CAST project (CARbon-14 Source Term) aims to develop understanding of the potential release mechanisms of carbon-14 from radioactive waste materials under conditions relevant to waste packaging and disposal to underground geological disposal facilities. The project focuses on the release of carbon-14 as dissolved and gaseous species from irradiated metals (steels, Zircalloys), irradiated graphite and from ion-exchange materials.

The CAST consortium brings together 33 partners with a range of skills and competencies in the management of radioactive wastes containing carbon-14, geological disposal research, safety case development and experimental work on gas generation. The consortium consists of national waste management organisations, research institutes, universities and commercial organisations.

The objectives of the CAST project are to gain new scientific understanding of the rate of release of carbon-14 from the corrosion of irradiated steels and Zircalloys and from the leaching of ion-exchange resins and irradiated graphites under geological disposal conditions, its speciation and how these relate to carbon-14 inventory and aqueous conditions. These results will be evaluated in the context of national safety assessments and disseminated to interested stakeholders. The new understanding should be of relevance to national safety assessment stakeholders and will also provide an opportunity for training for early career researchers.

## **SYMPOSIUM OBJECTIVE**

The CAST Project has been running since October 2013, with five technical work packages focussing on potential release mechanisms of carbon-14 from irradiated steels, irradiated Zircalloys, ion-exchange resins and irradiated graphite, and assessing how the knowledge gained from the related experimental programmes can inform safety assessments undertaken by waste management organisation, as end-users.

Significant progress has been made on carbon-14 release mechanisms, speciation and release rates during the CAST project, both in terms of novel experimental development and set-up, and in terms of new results that can be used by waste management organisations.

This event aims to disseminate the outcomes of the CAST project, and to act as a forum for related discussion. In addition, there will be the opportunity for relevant research not undertaken in CAST to be presented. The overall intention is to bring together scientists working in this field, both to learn more about the CAST project output, and to discuss the implications of carbon-14 release mechanisms in safety assessments of geological disposal facilities.

## PRELIMINARY PROGRAMME

### Day 1 Tuesday 16<sup>th</sup> January 2018

Time	Activity
9.00am	Welcome & Coffee
9 – 9.15	Welcome Speeches
9.15 – 9.30	CAST Project Overview <i>Simon Norris (RWM Ltd)</i>
9.30 – 10.15	Why studying C14 is important – context of C14 with respect to safety assessment development? <i>Keynote Speaker (TBC)</i>
10.15 – 11.15	WP2 Steels – Overview of Main Outcomes <i>Jens Mibus (Nagra)</i>
11.15 – 11.30	Coffee
11.30 – 12.15	WP2 Steels – CAST Invited presentation <i>Steve Swanton (Amec Foster Wheeler)</i>
12.15 – 13.00	WP2 Steels – External Invited presentation <i>Laurent Charlet (Grenoble University)</i>
13.00 – 14.00	Lunch
14.00 – 15.00	WP3 Zircaloy – Overview of Main Outcomes <i>Sophia Necib (Andra)</i>
15.00 – 15.45	WP3 Zircaloy – CAST Invited presentation <i>(TBC)</i>
15.45 – 16.00	Coffee
16.00 – 16.45	WP3 Zircaloy – External Invited presentation <i>(TBC)</i>
16.45 – 17.00	Discussion
17.00 – 20.00	POSTER SESSION (with buffet/drinks)

### Day 2 Wednesday 17<sup>th</sup> January 2018

Time	Activity
9.00am	Welcome & Coffee
9.15 – 10.00	WP4 Ion-Exchange Resins – Overview of Main Outcomes <i>Pascal Reiller (CEA)</i>
10.00 – 10.45	WP4 Ion-Exchange Resins – CAST Invited presentation <i>(TBC)</i>
10.45 – 11.00	WP4 Ion-Exchange Resins – External Invited presentation <i>(TBC)</i>
11.00 – 11.15	Coffee
11.15 – 12.00	WP5 Graphite – Overview of Main Outcomes <i>Simon Norris (RWM Ltd)</i>
12.00 – 12.45	WP5 Graphite – CAST Invited presentation <i>(TBC)</i>
12.45 – 14.00	Lunch & Poster Session
14.00 – 14.45	WP5 Graphite – External Invited presentation <i>(TBC)</i>
14.45 – 16.15	WP6 Safety Assessment – Overview of Main Outcomes <i>Manuel Capouet (Ondraf/Niras) and invited speakers</i>
16.15 – 16.30	Coffee
16.30 – 17.15	WP6 Safety Assessment - invited speakers
19.30pm	Conference Dinner (Ibis Style Lyon Villeurbanne)

## Day 3 Thursday 18<sup>th</sup> January 2018

Time	Activity
9.00am	Welcome & Coffee
9.15 – 10.00	WP7 Dissemination Overview <i>Erika Neeft (Covra)</i>
10.00 - 10.45	CAST - Expert Review Group Findings <i>Fraser King (Integrity Corrosion Consulting Ltd)</i>
10.45 – 11.00	Coffee
11.00 – 12.00	CAST – What We've Learnt for WP2, 3, 4 and 5 <i>(Jens Mibus, Sophia Necib, Pascal Reiller and Simon Norris)</i>
12.00 – 13.00	Panel Session – Implications of CAST Project outcomes on waste management organisations safety assessments <i>(TBC)</i>
13.00 – 14.00	Lunch

### CALL FOR ABSTRACTS

Submission of abstracts is invited for posters and presentations. Deadline for submission of abstracts is **1<sup>st</sup> November 2017**. Following review by the programme committee, a number of them will be selected for oral presentation.

Papers from the symposium will be considered for inclusion in a Special Edition of the Radiocarbon (RDC) journal.

### OFFICIAL LANGUAGE

English will be the working language for the oral and written communications of the symposium.

### CONFERENCE FEE

There will be no conference fee. Advance registration is required.

### PRACTICAL INFORMATION AND REGISTRATION

Hotel rooms have been provisionally reserved at the Ibis Style Lyon Villeurbanne, whereby single or twin / double rooms can be booked €99.10 / €110.20 respectively) using the booking form.

***Please note that the rooms will only be reserved at this rate for a limited time – please book by completing the form [here](#) as soon as possible.***

All T&S and accommodation costs will be covered by the attendees. The poster buffet is free to registered participants. The Symposium dinner (€35 per person) is not covered but can be paid in conjunction with the room booking – *please confirm on the booking form if you would like to attend the Symposium dinner.*

Please pass this on to colleagues who may be interested in this event. We have a maximum of 100 places, so be sure to register early. To register, please email Ally Clark ([alastair.clark@mcmenvironmental.co.uk](mailto:alastair.clark@mcmenvironmental.co.uk)) and Simon Norris ([Simon.NORRIS@nda.gov.uk](mailto:Simon.NORRIS@nda.gov.uk)) with your name, organisation details, and an indication of whether you intend to submit an abstract to the symposium.

## **IMPORTANT DATES**

May 2017: Preliminary programme and registration open

**November 2017: Abstract submission deadline (poster and oral)**

December 2017: Registration deadline

## **CONTACTS**

Dr Simon Norris (Co-ordinator – CAST)  
Radioactive Waste Management Limited  
Building 587  
Curie Avenue  
Harwell Science and Innovation Campus  
Didcot  
Oxon, OX11 0RH  
United Kingdom  
Tel: +44 (0) 1925 802891  
e-mail: [Simon.NORRIS@nda.gov.uk](mailto:Simon.NORRIS@nda.gov.uk)

Dr Ally Clark (Co-ordinator – CAST)  
MCM Environmental Services Ltd  
Desk Lodge,  
1 Temple Way,  
Bristol,  
BS2 0BY  
United Kingdom  
Tel: +44 (0) 7754 204817  
e-mail: [alastair.clark@mcmenvironmental.co.uk](mailto:alastair.clark@mcmenvironmental.co.uk)

## **PROGRAMME COMMITTEE**

Simon Norris (RWM – CAST Coordinator and WP5 Leader)  
Jens Mibus (Nagra – CAST WP2 Leader)  
Sophia Necib (Andra – CAST WP3 Leader)  
Pascal Reiller (CEA – CAST WP4 Leader)  
Manuel Capouet (Ondraf/Niras – CAST WP6 Leader)  
Erika Neeft (Covra – CAST WP7 Leader)  
Fraser King (Integrity Corrosion Consulting, CAST Expert Review Group)  
Irka Hajdas (ETH, Switzerland, CAST Expert Review Group)  
Ally Clark (MCM Environmental Services Ltd, CAST Coordinator)  
Nelly Toulouat (CNRS)  
Nathalie Moncoffre (IPNL)

## **WEBSITE**

Information on the symposium will be made available through the CAST website as it becomes available - <http://www.projectcast.eu/>.