



Website FIRST-Nuclides:

[www.firstnuclides.eu](http://www.firstnuclides.eu)

## 2-day training course developed in the framework of the FIRST- Nuclides project

9th – 10th July, 2013

Karlsruhe, Germany



### Scope

A two days training course is coordinated by KIT-INE and ITU in the frame of the FIRST-Nuclides project. The course is open to all interested European groups of the CP FIRST-Nuclides and is limited to 12 participants. Funding will cover course fee. The course will be divided into lectures in the morning sessions and laboratory visits as well as practical training in the afternoons.

Organized by:



### Registration

A registration form must be fill in and sent it back to the following email addresses:

- [volker.metz@kit.edu](mailto:volker.metz@kit.edu)
- [alba.valls@amphos21.com](mailto:alba.valls@amphos21.com)

The template can be downloaded from the project website: [www.firstnuclides.eu](http://www.firstnuclides.eu)

**Deadline for registration is 25<sup>th</sup> of May of 2013**

Important: for the visit of the JRC-ITU laboratories, the attendees have to fill-in a specific form. This form will be provided to those who are interested.

**Deadline for specific form is 25<sup>th</sup> of May of 2013**



## Location

The course will be held in the *Institute for Nuclear Waste Disposal, KIT-INE*, and in the *Joint Research Centre - Institute for Transuranium Elements, JRC-ITU*.



## Accommodation

Different hotels are suggested by the coordination team for the accommodation, which are listed below.

- Hotel Blankenburg
- Hotel am Markt
- Hotel Acora
- Hotelwelt Kübler
- Hotel Erbprinzenhof
- ACHAT Hotel Karlsruhe
- BEST WESTERN Queens Hotel Karlsruhe
- Ibis Hotel Karlsruhe
- Schlosshotel Karlsruhe

More information regarding these hotels is available at the website of the project: [www.firstnuclides.eu](http://www.firstnuclides.eu)

The organisation of the course does not arrange accommodation, but can provide guidance to those interested.

## Funding

The project will cover the following costs:

- Attendance to the course
- Coffee breaks
- Transport KIT-ITU-hotel
- Tuesday dinner (buffet)

Accommodation will be funded with up to 150 EUR for 2 nights and the reimbursement will be done after return from the course, when the attendee sends the original hotel bill to Amphos21.

Other costs must be covered by the attendee.

## Agenda

**Tuesday, 9 July 2013**

- 9:00 Welcome, introduction to the course and practical information (V. Metz, INE)
- 9:10 Introduction to Institute for Nuclear Waste Disposal (NN, INE)
- 9:40 Final Disposal of Spent Nuclear Fuel (SNF) in Deep Geological Repositories (B. Kienzler, INE)
- 10:25 *coffee break*
- 10:45 Built-up of Fission Products and Actinides in Nuclear Fuel – Effect of Heterogeneity within fuel pellets on the Spatial and Temporal Radionuclide Distribution (R. Dagan, INR)
- 11:30 Chemical and Mineralogical Properties of Spent Nuclear Fuel – Effect of Burn-up and High Burn-up Structure on Radionuclide Release (E. González-Robles, INE)
- 12:15 *lunch break in KIT Cantina*
- 13:30 Microscopic and Surface Analyses of Irradiated UO<sub>2</sub>(s) / Spent Nuclear Fuel (D. Schild, INE)
- 14:00 Brief introduction into practical afternoon training, radiation protection instructions, filling-in forms ... (V. Metz, INE)
- 14:10 Training in remote handling with mock-up manipulators in INE-PVA (E. González-Robles and E. Bohnert, INE)
- 14:30 Entering KIT-INE controlled area
- 14:45 *group (A):* Raman-spectroscopy and optical microscopy of SNF, irradiated UO<sub>2</sub>(s) and calibration samples in shielded box line  
*group (B):* Surface  $\mu$ -analysis of irradiated UO<sub>2</sub>(s), data evaluation of measurements (XPS, SEM-EDX)  
(E. González-Robles, E. Bohnert, N. Müller, D. Schild, E. Soballa, V. Metz, INE)
- 15:15 *group (A):* Surface  $\mu$ -analysis of irradiated UO<sub>2</sub>(s), data evaluation of measurements (XPS, SEM-EDX)  
*group (B):* Raman-spectroscopy and optical microscopy of SNF, Irradiated UO<sub>2</sub>(s) and calibration samples in shielded box line  
(E. González-Robles, E. Bohnert, N. Müller, D. Schild, E. Soballa, V. Metz, INE)
- 16:00 Summary discussion in INE seminar room
- 16:30 Pick-up and transfer to hotels in Karlsruhe



**Agenda****Wednesday, 10 July 2013**Morning session: KIT-INE seminar room

- 9:00 Spent Nuclear Fuel Evolution after Discharge (V.V. Rondinella, ITU)
- 9:45 Influence of Irradiation History on Corrosion Processes of Spent Fuel (J.-P. Glatz, ITU)
- 10:30 *coffee break*
- 10:45 Characterisation and Reactions of Actinide Oxide Thin Films (T. Gouder, ITU)
- 11:30 Radiolysis Enhanced Corrosion of Spent Nuclear Fuel (V. Metz, INE)
- 12:00 *lunch break in KIT Cantina*

Afternoon session: visit to controlled area / hot cell facilities of ITU

- 13:30 Entering ITU controlled area – lab tour (D.H. Wegen, ITU)
- 16:00 Summary discussion in ITU seminar room
- 16:30 Pick-up and transfer to railway station / hotels in Karlsruhe

1<sup>st</sup> Announcement, April 2013

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*Training course organized by:*



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