EURAD SCHOOL OF RADIOACTIVE WASTE MANAGEMENT
Niels Belmans (SCK CEN) & Michèle Coeck (SCK CEN)
17 November 2021
EURAD - European Joint Programme on Radioactive waste management

Partner organizations:

• 19 Waste Management Organizations
• 13 Technical Support Organizations
• 19 (nationally funded) Research Entities

⇒ Representing ministries of 23 European countries
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June 2019 – May 2024
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June 2019 – May 2024

Funded by H2020 Research and Innovation programme
A step change in European collaboration towards safe RWM, including disposal, through the development of a robust and sustained science, technology and knowledge management programme that supports timely implementation of RWM activities and serves to foster mutual understanding and trust between Joint Programme participants.
EURAD Objectives

• Implement a robust and sustained state-of-the-art science and technology programme

• Consolidate efforts across Member-States, organisations and generations on Knowledge Management

• Elaborate upon complex issues and identify emerging ones by bringing together all interested actors to jointly conduct Strategic Studies

• Foster mutual understanding / trust between participants as well as other stakeholders, incl. from Civil Society
IAEA defines knowledge management (KM) as:

“an integrated, systematic approach to identifying, acquiring, transforming, developing, disseminating, using, sharing and preserving knowledge, relevant to achieving specified objectives”*

*: Karseka and Yanev, IAEA, 2013
EURAD Knowledge Management & Networking Programme

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➔ “Enhance knowledge management and transfer” is one of EURAD’s main objectives

➔ EURAD Knowledge Management & Networking Programme

*: Karseka and Yanev, IAEA, 2013
1. **Roadmap**
   - A common framework to structure knowledge

2. **State of Knowledge**
   - What we know and why it's important

3. **Guidance**
   - Best practice and lessons learned

4. **Training & Mobility**
   - Nuclear experience and know-how

5. **Networking & Tools**
   - Connecting people to people, and people to content
EURAD Knowledge Management & Networking Programme

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EURAD Training and Mobility Work Package

Work Package Lead:

sck cecn

Academy

Partner organizations:
The EURAD School of Radioactive Waste Management

• The School of Radioactive Waste Management (RWM) aims to assist end-users in:
  • “an integrated, systematic approach to identifying, acquiring, transforming, developing, disseminating, using, sharing and preserving knowledge (and skills), relevant to achieving specified objectives”
The EURAD School of Radioactive Waste Management

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• To this end, the School supports competence (= knowledge, skills and attitudes) building through:
  • A portfolio of needs-driven(existing and newly developed) training courses
  • A dedicated Mobility Programme
  • Organization of webinars on broad and specific topics by subject-matter experts
  • Maintaining a library of webinar recordings
  • Support for the EURAD PhD community
  • Host a discussion forum to reinforce the idea of ‘one big EURAD family’

⇒ Centralized on a dedicated website: https://euradschool.eu/
The EURAD School of Radioactive Waste Management

Input from end-users (bottom-up)

Courses
Mobility
Webinars
PhDs

School of Radioactive Waste Management
(https://euradschool.eu/)

17/11/2021 NESTet Conference 2021
EURAD School of RWM – Needs-driven training courses

• Needs-driven
  • End-user feedback was gathered (March – May 2020): 80 respondents
  • Training needs were identified (April 2021): 363 training needs, 262 of which were identified as difficult to find
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  • In collaboration with RD&D and Strategic Studies WPs
  • Provide access to nuclear experience and know-how of the EURAD subject matter experts
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• Main goal: effective knowledge transfer and competence building towards end-users
Eurad School of RWM – Needs-driven training courses

- Implementation of training courses varies depending on the:
  - Training needs
  - Target audience
  - Type of knowledge to be transferred (explicit vs implicit vs tacit)
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➔ Guidance document: ‘Quality criteria and training specifications as a reference guide of requirements and expectations of the training courses to be developed’
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➤ Guidance document: ‘Quality criteria and training specifications as a reference guide of requirements and expectations of the training courses to be developed’
  - Based on IAEA’s Systematic Approach to Training
    - Analysis
    - Design
    - Development
    - Implementation
    - Evaluation
EURAD School of RWM – Mobility Programme

• The EURAD Mobility Programme supports PhDs, post-docs and junior professionals in performing:
  • Internships
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  • List of infrastructures is available on School website: https://euradschool.eu/infrastructures/
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• EURAD partners can offer internships on the School website
EURAD School of RWM – Webinars

• The School organizes webinars on broad and specific topics by subject-matter experts, e.g.:
  • Nuclear Knowledge Management
  • PREDIS
  • The US Nuclear Waste Management and Disposal Strategy
  • ...
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• Recorded in order to preserve knowledge and facilitate dissemination
  (https://www.youtube.com/playlist?list=PLahXOQn-bremN911IEEn0w8yAzQyuUR3ky)
EURAD School of RWM – Support the PhD community

• The School wants to support the EURAD PhD community by providing:
  • Information on available/upcoming courses
  • The possibility to perform mobility actions
  • An overview of all PhD research performed in EURAD (https://euradschool.eu/overview-of-phds/)
  • A list of events of interest for PhD students
  • A discussion forum (https://forum.euradschool.eu/)

• The aim is to foster a community between the PhD students, researchers and the Training and Mobility work package

⇒ PhD students are the future key figures in radioactive waste management!
EURAD School of RWM – Achievements – Launch of website and forum

Website was launched on December 21st 2020

The EURAD Roadmap is a representation of a generic radioactive waste management programme that shall enable users and programmes to 'click-in', and access existing knowledge and active work or future plans in EURAD and elsewhere. Therefore, activities of the School of Radioactive Waste Management will be linked to the Roadmap.
EURAD School of RWM – Achievements – Launch of website and forum

Website was launched on December 21st 2020

= official foundation of the School of Radioactive Waste Management

Number of site visits as of November 2021:

• 1,596 new users
• 5,513 page views

Discussion forum was launched in June 2021
EURAD School of RWM – Achievements – Launch of website and forum

The forum contains the following sub-forums:

• EURAD School of Radioactive Waste Management
  • Courses & Events
  • Mobility actions
  • PhD students
  • Publications

• EURAD Roadmap
  • Theme 1
  • ...
  • Theme 7

• General
EURAD School of RWM – Achievements – Training courses

Two training courses have been successfully organized:

- ‘Multiphysical couplings in geomechanics’
  - January 22nd 2020 – January 24th 2020 (face-to-face)
  - 70 participants
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• ‘Introductory course to EURAD and Radioactive Waste Management’
  • September 14\textsuperscript{th} 2020 (online)
  • 260 participants
  • Recording of lectures is publically available and were viewed 537 times (as of September 2021)
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Three courses are currently planned:

• Uncertainty management
• EURAD Roadmap Domain Insights and State of Knowledge
• Safety case production and review
EURAD School of RWM – Achievements – Mobility Programme

• Launched on April 8th 2020

• Guidelines, applications and evaluations via an online platform (Evalato)
  • https://pro.evalato.com/2185

• Numbers (as of October 2021)
  • 12 applications (6 complete applications)
  • 4 mobility actions approved (2 still under review)
  • 2 mobility actions completed

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The Mobility Programme suffered under the travel restrictions due to COVID-19

➤ The situation is expected to improve in the coming months
# EURAD School of RWM – Achievements – Webinars

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<tr>
<th>Title</th>
<th>Date</th>
<th># attendees</th>
<th># views (YouTube)*</th>
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<tr>
<td>Synergies of EURAD with the PREDIS project addressing pre-disposal waste treatment; <em>Erika Holt (VTT)</em></td>
<td>28/10/2020</td>
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<td>News from the German Site Selection Procedure; <em>Astrid Göbel (BGE)</em></td>
<td>25/11/2020</td>
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<td>Celebrating 20 years of the IGSC; <em>Lucy Bailey (IGSC)</em></td>
<td>27/01/2021</td>
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<td>Knowledge Management in Nuclear Organizations; <em>Dinara Abbasova (HZDR)</em></td>
<td>24/02/2021</td>
<td>22</td>
<td>23</td>
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<td>The IGD-TP: European waste management organisations coordinating international R&amp;D activities; <em>Irina Gaus (Nagra, IGD-TP)</em></td>
<td>31/03/2021</td>
<td>19</td>
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<td>The next-generation scientific research for the safe management of radwaste – EURADSCIENCE; <em>Christophe Bruggeman (SCK CEN)</em></td>
<td>28/04/2021</td>
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<td>Steps for Sharing (ERDO Association); <em>Ewoud Verhoef (ERDO)</em></td>
<td>26/05/2021</td>
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<td>The SITEX.Network; <em>D. Pelligrini (IRSN), F. Bernier (FANC), N. Zeleznik (NTW)</em></td>
<td>30/06/2021</td>
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<td>EC-JRC activities on RWM and decommissioning; <em>Manuel Martin-Ramos (EC-JRC)</em></td>
<td>29/09/2021</td>
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<tr>
<td>US Nuclear Waste Management and Disposal Strategies; <em>Rodney Ewing (Stanford University and Spogli Institute)</em></td>
<td>06/10/2021</td>
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<td>17</td>
</tr>
</tbody>
</table>

* Up until October 15th 2021
EURAD School of RWM – Achievements – Support PhD community

Two events were organized specifically aimed at the EURAD PhD Community:

• EURAD PhD Event N°1
  • September 15th 2020 (online)
  • 22 PhD students presented themselves and their work to the EURAD community
  • 65 EURAD experts attended this event
  • Recording was viewed 163 times (as of October 2021)
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• PhD session during EURAD Annual Event N°1
  • March 17th 2021
  • 6 PhD students presented the PhD work being done in each of the RD&D WPs
  • Presentations followed by short debate between PhD students and experts
Summary

- School of RWM was successfully launched
- Through its 4 pillars it is an integral part of EURAD’s KM programme
- Assists end-users in:
  - Acquiring
  - Developing
  - Disseminating
  - Using
  - Sharing
  - Preserving knowledge and skills
- All initiatives are end-user needs-driven
The project leading to this application has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement n° 847593.

QUESTIONS?

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